



NAVS NEWS VIBES

NATIONAL ACADEMY OF VETERINARY SCIENCES (INDIA)

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EDITORIAL

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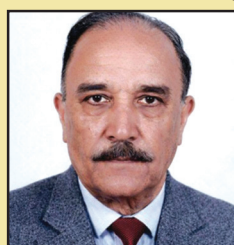
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Dear Esteemed Fellows and Valued Readers,

It is with immense pride and a profound sense of responsibility that I present the April 2026 issue of *NAVS News VIBES*. This issue vividly reflects the dynamic momentum of veterinary sciences in India and across the globe. The veterinary profession is making a powerful impact at the intersection of science, society, and sustainability, demonstrating its ever-expanding relevance in today's world.

The richness and depth of the content featured in this issue capture a defining moment for our fraternity. Veterinary science is no longer merely a supporting discipline; it has emerged as a central pillar of national development and a critical force in safeguarding public health.

The Hon'ble President's message in this issue provides a forward-looking vision by highlighting emerging frontiers in poultry nutrition, precision feeding, molecular nutrition, alternative protein sources, gut health modulation, and digital technologies. These are emerging concepts and active scientific pathways that will determine how effectively we address the twin challenges of nutritional security and environmental sustainability. However, scientific progress must not remain confined to laboratories; its true value lies in translation to field-level impact, benefiting farmers, industry, and society at large.

Equally important is the growing alignment between policy, science, and field application. The Government of India's renewed focus on strengthening veterinary infrastructure, expanding human resources, and intensifying disease control programmes is both timely and encouraging. Yet, there remains a need to align investment priorities with the sector's substantial contribution to agricultural GDP and rural livelihoods. As a professional community, we must continue to advocate, through evidence, collaboration, and unified voice, for policies that recognize and strengthen the sector's pivotal role.

The expanding global focus on One Health, animal welfare, and sustainable livestock systems underscore the growing importance of our profession. Challenges such as antimicrobial resistance, emerging zoonoses, and biosecurity highlight that veterinarians are not just animal caretakers, but vital guardians of public health and ecological balance. Recent avian influenza advisories and coordinated intersectoral responses further reflect the broadening scope of our responsibilities in protecting both animal and human populations.

The increasing feminisation of veterinary services, growing international collaborations, and the call for early vocational training in animal care highlight both opportunities and emerging challenges. Building a future-ready veterinary workforce will require inclusive policies, innovative educational approaches, and strong mentorship frameworks.

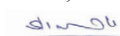
At the same time, rapid advancements in biotechnology, data science, and interdisciplinary research are redefining the boundaries of veterinary and animal sciences. Innovations such as lab-grown milk, advanced reproductive technologies, and novel therapeutic interventions point toward a future where veterinary science is deeply integrated with cutting-edge scientific technology. As a community, we must be prepared not only to adopt such innovations but also to critically evaluate their ethical, economic, and societal implications.

Amidst these advancements, we must remain anchored in the core values of our profession: compassion, integrity, and service. The tragic loss of a young veterinarian in the line of duty serves as a poignant reminder of the risks associated with our profession and the urgent need for stronger safety protocols and institutional safeguards. It underscores that veterinary science is not just a career, but a commitment that often demands courage and selfless dedication.

NAVS News VIBES continues to serve as more than a newsletter; it is a collective voice of the veterinary fraternity, a platform that connects ideas, celebrates achievements, and stimulates meaningful dialogue. The richness of this issue is a testament to the contributions of our Fellows, researchers, practitioners, and collaborators across the globe.

To every reader be it a Fellow, student, scientist, policymaker, or field veterinarian the message is clear: this is our moment. The national and global discourse is being shaped by the contributions we make today. Let us engage more deeply, collaborate more widely, and innovate more boldly. Let us bridge the gap between knowledge and practice, and between science and society.

Together, we can shape a future where veterinary science stands at the forefront of food security, public health, environmental sustainability, and national progress.



L.D. Singla
Editor, NAVS News VIBES

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HORIZON

PRESIDENT'S VIEWS & VISION

Dear Fellow Members, Esteemed Colleagues, and Stakeholders,

It gives me immense pleasure to address the vibrant veterinary and animal science community through this issue of our newsletter. At a time when global food systems are under unprecedented pressure, the role of veterinary sciences particularly poultry nutrition has assumed strategic importance in ensuring protein security, sustainability, and resilience for our nation.



India's Poultry Sector: A Story of Transformation

India's poultry sector stands today as one of the most dynamic and rapidly transforming segments of our livestock economy. However, this remarkable growth trajectory brings with it a complex array of challenges. Issues such as feed resource constraints, environmental sustainability, antimicrobial resistance (AMR), animal welfare, and climate change are increasingly influencing the future of poultry production. It is, therefore, imperative that poultry nutrition must evolve beyond conventional feed formulation into a multidisciplinary science integrating biology, environmental sciences, data analytics, and circular economy principles.

Five Critical Frontiers Redefining Poultry Nutrition Science

I would like to draw particular attention to five critical frontiers that are reshaping the landscape of poultry nutrition science and should guide our collective research, teaching, and policy agenda:

1. Precision Nutrition and Smart Feeding

Advancements in sensor technologies, artificial intelligence, and real-time data analytics now enable us to tailor nutrient supply precisely to the physiological needs of individual birds. This not only improves feed efficiency and production outcomes but also significantly reduces nutrient wastage and the associated environmental burden. Precision feeding represents a paradigm shift—from population-level averages to individual-level optimization.

2. Molecular Nutrition and Nutrigenomics

The integration of nutrigenomics, transcriptomics, and metabolomics is revolutionizing our understanding of how nutrients interact with genes and metabolic pathways. This exciting frontier opens avenues for designing diets that optimize productivity, immunity, and overall health at the molecular level—transforming nutrition science from an empirical art into a precision discipline.

3. Alternative and Sustainable Feed Resources

With conventional feed ingredients becoming increasingly scarce and expensive, the future lies in diversifying protein sources. Insect meals, algal biomass, single-cell proteins, and responsibly recycled animal by-products offer promising, sustainable alternatives aligned with circular bioeconomy principles. The adoption of circular approaches—including the utilization of agro-industrial by-products such as feather hydrolysates, spent grains, and oilseed cakes through advanced bioprocessing technologies—can significantly enhance resource efficiency while reducing production costs.

4. Gut Health and Antibiotic Alternatives

The gut microbiota is now recognized as a dynamic metabolic and immunological organ. Modulating it through probiotics, prebiotics, phytobiotics, and other functional additives provides a viable and scientifically validated pathway to reduce antibiotic dependence and combat AMR. This frontier is especially significant for India, where responsible antibiotic stewardship is a public health imperative of the highest order.

5. Digitalization and Artificial Intelligence

AI-driven feed formulation models and digital farm management systems are transforming decision-making processes, enabling predictive analytics, improved efficiency, and better disease management. These tools, when appropriately adapted for Indian farming conditions—including smallholder and semi-commercial operations can be used as potential powerful equalizers, extending the benefits of scientific advancement to every corner of our country.

Sustainability, Circularity, and Nutrition–Disease Interactions

Beyond these frontiers, sustainability and circularity must remain central to all our interventions. Modern poultry production must not only measure productivity but also evaluate carbon footprint, water use efficiency, nutrient excretion, and land use intensity. The integration of life cycle assessment tools with feed formulation systems can help design environmentally responsible diets without compromising productivity.

Equally important is the emerging understanding of nutrition–disease interactions. The interplay between nutrition and immune competence is

becoming a defining factor in poultry health management. Stressors such as heat stress, mycotoxins, and pathogen challenges demand integrated nutritional strategies. Functional feed ingredients—such as immunomodulatory peptides, nucleotides, omega-3 fatty acids, and antioxidants—are now essential components of modern feed formulations aimed at enhancing resilience rather than merely preventing deficiencies.

Protein Security: A National Responsibility

As we navigate these scientific advancements, it is crucial to recognize that protein security is not just a production goal, but a national responsibility. Poultry, being one of the most efficient converters of feed into high-quality protein, holds a pivotal role in addressing malnutrition and ensuring affordable nutrition for millions in India and beyond.

At the same time, the broader livestock sector presents both opportunities and persistent challenges. Environmental concerns with livestock contributing nearly 14.5% of global greenhouse gas emissions call for urgent adoption of sustainable practices. Disease outbreaks and AMR remain persistent threats, emphasizing the need for robust surveillance systems and responsible antibiotic stewardship. Feed costs, accounting for 65–70% of production expenses, further underline the importance of improving feed efficiency and exploring alternative feed resources.

Key Priorities for the Veterinary Community

To address these multifaceted challenges, I call upon our community to focus on the following key priorities:

- **Strengthening policy frameworks** to promote sustainability, regulate antibiotic use, and safeguard animal health at the national level.
- **Leveraging innovation and technology**, including genomics, AI-driven tools, and precision nutrition, to enhance production efficiency and reduce environmental impact.
- **Integrating smallholder farmers** into modern production systems to ensure equitable growth, technology dissemination, and inclusive rural development.
- **Bridging the lab-to-land gap** by fostering greater synergy among universities, research institutions, industry stakeholders, and extension systems to translate scientific knowledge into field-level impact.
- **Fostering interdisciplinary collaboration** across academia, industry, and government to address emerging challenges in an integrated and holistic manner.

NAVS(I)'s Commitment: Innovation, Integration, Inclusion, and Integrity

The National Academy of Veterinary Sciences (India) continues to serve as a premier think tank, providing scientific guidance, policy advocacy, and fostering interdisciplinary collaboration. As President of the Academy, I reaffirm my unwavering commitment to strengthen partnerships across academia, industry, and government to address emerging challenges in our sector holistically and effectively.

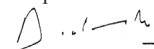
Looking ahead, our approach must be guided by four fundamental principles: Innovation, Integration, Inclusion, and Integrity. These pillars will shape not only the future of animal nutrition but also the sustainability of our ecosystems, livelihoods, and food systems. They represent our collective promise—to science, to society, and to the nation.

Scientific innovation finds its true value only when it reaches the field. Bridging the gap between laboratory research and farm-level application that remains one of our greatest responsibilities as veterinary research scientists and academicians. I also emphasize the crucial role of young scientists and students in this journey—their energy, curiosity, and commitment to evidence-based practice which will determine the trajectory of our discipline for decades to come.

A Call to Collective Action

I urge all members of the veterinary fraternity scientists, policymakers, industry leaders, and practitioners to work collectively toward a future where livestock and poultry production systems are sustainable, ethical, and resilient. Let us strive to ensure that animal health, welfare, and productivity go hand in hand with environmental stewardship and societal well-being.

Together, we can build a future where veterinary science not only supports economic growth but also becomes a cornerstone of food security, public health, and national development. The road ahead demands commitment, courage, and collaboration qualities that have always defined the best of our profession.


(Dr DVR Prakash Rao)

THE ACADEMY EVENTS & ENDEAVOURS

Dr DVR Prakash Rao Nominated to TANUVAS Planning Board

NAVS(I) extends warm congratulations to its President, Dr DVR Prakash Rao, on his nomination as a Member of the Planning Board of Tamil Nadu Veterinary and Animal Sciences University (TANUVAS). This prestigious recognition reflects his outstanding contributions to veterinary education, research, and policy planning. His association is expected to further strengthen academic excellence and strategic development at TANUVAS.

FOOD FOR THOUGHT ANIMAL WELFARE AND HEALTH

Need for Independent Veterinary Research Council Gains National Attention

In a significant development for the veterinary sector, Dr Mohan Bhagwat has strongly recommended for the establishment of an independent Indian Council of Veterinary and Fisheries Research (ICV&FR) to accelerate scientific decision-making in veterinary and animal sciences.



Addressing a national symposium jointly organized by the Indian Society for Advancement of Canine Practice (ISACP) and Maharashtra Animal and Fishery Sciences University (MAFSU) in Nagpur on 12 February 2026, he emphasized the urgent need for a dedicated apex body, on the lines of Indian Council of Agricultural Research, to oversee veterinary education, research, extension, funding, and policy formulation.

He stressed that decisions impacting animal production, health and public safety must be led by domain experts rather than general administrators.

Highlighting the critical role of veterinarians, he described them as the “Unsung Heroes” of India’s economic growth, contributing significantly to rural livelihoods and the agrarian economy. He also underlined the importance of adopting balanced and scientific approaches such as sterilization for managing stray dog populations, in line with guidance from the Supreme Court of India. Encouraging the veterinary fraternity to expand its horizons, he called for greater engagement of veterinarians in the global environmental health and public policy through the One Health approach. It is a timely and powerful call that could reshape the future of veterinary research and policy in the country.

GOI Minister Urges Highest Quality in Dairy Sector to Secure Global Markets

In a powerful and forward-looking address at the 52nd Dairy Industry Conference organized by the Indian Dairy Association (North Zone), Union Minister for Food Processing Industries GOI Mr Chirag Paswan issued a strong call for the Indian dairy sector to uphold the highest quality standards to secure and expand its global footprint.

Warning that non-compliance with quality norms weakens market access and allows fraudulent operators to damage the reputation of genuine enterprises, Mr. Paswan further emphasized that India possesses immense potential to emerge as the world’s “Dairy Basket.” However, he underlined that this vision demands stronger organisation, strategic market channelisation, and unwavering commitment to quality.

“India has the capacity to present itself as a Global Dairy Basket. What we require is greater organisation and focused movement in that direction,”

he asserted, adding that the dairy sector will play a transformative role in building a globally competitive India.

The Minister reaffirmed the Government’s commitment to support the sector through enabling policies, resolution of GST-related concerns, and promotion of dairy processing under various central schemes. However, he stressed that the responsibility now rests with the industry to implement these measures effectively and ensure that Indian dairy products consistently meet and surpass international standards.

In his address, Minister of State for Fisheries, Animal Husbandry and Dairying GOI Mr S P Singh Baghel highlighted India’s remarkable achievements in milk production. Over the past 11 years, milk output has surged by an impressive 69.41 per cent, reaching 247.87 million tons in 2024–25, with an annual growth rate of 6.31 per cent, nearly three times the global average of 2 per cent. India now contributes 25 per cent of the world’s milk production and continues to rank first globally.

The minister also attributed this rapid expansion to the focused policy framework introduced following the establishment of a dedicated Ministry for Fisheries, Animal Husbandry and Dairying. He further emphasized the importance of animal welfare and the adoption of advanced reproductive technologies such as Artificial Insemination (AI), *In Vitro* Fertilisation, and sex-sorted semen to enhance productivity and sustainability within the dairy ecosystem.

A landmark development during the conference was the signing of an agreement to host the prestigious World Dairy Summit in India in 2027, a significant milestone that is expected to further strengthen India’s leadership and visibility in the global dairy arena.

The conference reaffirmed its commitment to promoting dairy entrepreneurship across rural India by empowering farmers and rural youth to establish and expand dairy enterprises. This strategic push is poised to boost rural incomes, enhance value addition, and reinforce the resilience of India’s dairy economy. (<https://agrimoon.com/india-urges-dairy-industry-to-uphold-quality-norms-for-global-competitiveness/>)

GOI Plan to Upscale Veterinary Human Resources

The Union Budget 2026–27 has placed renewed emphasis on the livestock sector, with a strong policy thrust toward strengthening veterinary infrastructure, disease control, and rural livelihoods. Highlighting the sector’s importance, Union Minister of Finance GOI Smt. Nirmala Sitharaman noted that livestock contributes nearly 16% of farming income, particularly benefiting poor and marginal households.

She announced plans to scale up the availability of veterinary professionals by over 20,000 through a loan-linked capital subsidy scheme supporting the establishment of new veterinary and para-veterinary colleges, hospitals, diagnostic laboratories, and breeding facilities.



The Department of Animal Husbandry and Dairying, GOI has allocated ₹4,840.40 crore, marking a 26% increase over the previous year. The Livestock Health and Disease Control Program (LHDCP), with an outlay of ₹3,880 crore, will intensify vaccination drives against Foot and Mouth Disease and Brucellosis while strengthening veterinary services nationwide. The Animal Husbandry Infrastructure Development Fund (AHIDF), extended until March 31, with a total outlay of ₹29,610 crore, aims to boost investments in dairy, meat processing, and feed industries.

Additional provisions include ₹100 crore for the Animal Health Institute, ₹50 crore each for the Small Livestock and Breed Improvement Institutes, ₹460 crore under the Infrastructure Development Fund, and ₹10 crore for the Veterinary Council of India. Expansion of mobile veterinary units



and research facilities further underscores a shift toward preventive and productivity-oriented animal healthcare.

However, concerns remain regarding the adequacy of funding. A reporter pointed out that the entire animal husbandry budget could be lower than the cost of a single large infrastructure project. Responding to this, Dr Tarun Shridhar, Director General, Indian Chamber of Food and Agriculture and former Secretary, Ministry of Fisheries, Animal Husbandry and Dairying, GOI stated that the sector receives far less than it deserves.

He emphasized that animal husbandry, dairy, and fisheries contribute over 30% of agricultural GDP, suggesting that budgetary allocation should reflect this proportion. The economic value of milk production alone exceeds ₹10 lakh crore annually, surpassing the combined value of wheat and rice (₹6.66 lakh crore), while poultry contributes around ₹2.5 lakh crore.

These figures highlight a clear mismatch between the sector's economic contribution and its budgetary support. While the Union Budget marks a progressive step toward strengthening veterinary infrastructure and rural livelihoods, experts underline the need for more proportionate investment to fully harness the sector's potential.

Historic Animal Contingent by RVC Steals the Show at Republic Day 2026

In a remarkable and first-of-its-kind display, the Indian Army's Remount Veterinary Corps (RVC) captivated the nation during the Republic Day Parade 2026 with a specially curated animal contingent. This historic presentation featured 22 dogs, 4 trained raptors, 4 Zanskar ponies, and 2 Bactrian camels, symbolizing a unique blend of tradition and modern military capability.

The contingent highlighted the existing role of animals in defense operations, particularly in challenging terrains such as high-altitude and inaccessible regions. Indigenous dog breeds like Mudhol and Rampur Hounds stood alongside trained military dogs, showcasing India's growing emphasis on native strength and adaptability.

Marking a significant milestone, the contingent was led for the first time by a woman officer, Captain Dr Harshita Raghav, reflecting the progressive transformation within the Corps. A graduate in veterinary sciences with specialization in wildlife, her leadership added pride and inspiration to the occasion.



The RVC, with its rich legacy of over two centuries, demonstrated its vital role in logistics, surveillance, and combat support through this "Him Yodha" themed presentation. The inclusion of raptors for aerial reconnaissance further underscored innovation in military strategy. This grand debut of a multi-species contingent marks a shift from the traditional dog squads seen in earlier parades, reinforcing the silent yet indispensable contribution of animals to national security - A proud moment for veterinary science, the armed forces, and the nation at large.

National Strategy to Combat Mastitis, Boost Dairy Productivity

The Department of Animal Husbandry and Dairying GOI has released a comprehensive national strategy document aimed at the prevention and control of mastitis, one of the most economically significant disease affecting dairy animals. The initiative is expected to strengthen India's dairy sector by improving milk quality, enhancing productivity, and safeguarding farmer incomes.

Recognizing widespread impact of mastitis, the newly released strategy outlines a multi-pronged approach focusing on awareness, early diagnosis, scientific treatment, and capacity building across the dairy value chain.

The document emphasizes the adoption of clean milk production practices, including improved milking hygiene, regular screening using simple diagnostic tools, and timely technical intervention. It also highlights the importance of farmer education through targeted training programs to promote best practices at the field level.

STRATEGY DOCUMENT ON THE PREVENTION AND CONTROL OF MASTITIS



A key component of the strategy is the strengthening of veterinary infrastructure and diagnostic facilities to enable early detection and effective treatment of mastitis cases. The plan also calls for enhanced surveillance systems and data-driven decision-making to monitor disease prevalence and evaluate intervention outcomes.

In addition, the strategy encourages the use of advanced technologies and research-driven solutions, including development of mastitis-resistant breeds and improved therapeutic protocols. Collaboration between research institutions, veterinary universities, and field agencies is expected to play a crucial role in translating scientific advancements into practical need based solutions for farmers.

The initiative aligns with the government's broader vision of increasing farmers' income and ensuring sustainable livestock development. By addressing mastitis in a structured and scientific manner, the strategy is poised to significantly reduce economic losses and improve the overall efficiency of the dairy sector. With focused implementation, the strategy is expected to bring tangible benefits to millions of dairy farmers across the country while ensuring the production of safe and high-quality milk.

Government Advisory on HPAI Detection in Crows and Non-Poultry Species

The Department of Animal Husbandry & Dairying, Government of India, has issued a comprehensive advisory protocol on detection and response to Highly Pathogenic Avian Influenza (HPAI-H5N1) in crows and other non-poultry species, following recent virus detections in wild birds across Kerala, Bihar, Tamil Nadu, Sikkim, and Maharashtra.

While domestic poultry remain highly susceptible, infections have increasingly been recorded in wild birds including crows, pigeons, herons, peacocks, and owls serving as early warning signals of virus circulation and potential risk to poultry populations.

Veterinarians and field functionaries should attend sudden or unexplained wild bird deaths, cluster mortalities, neurological signs, respiratory distress, and carcasses near poultry farms or water bodies as suspect for HPAI incidence. The advisory reiterates the no-culling policy. HPAI detection in wild or non-poultry species does not warrant stamping-out operations in domestic poultry.

Field personnel must use full PPE when handling sick or dead birds, avoid field post-mortems, and refer up to three carcasses to designated Regional Disease Diagnostic Laboratories under proper biosafety protocols. Active

surveillance is mandated within a 10 km radius of mortality foci, with strict biosecurity measures advised for nearby poultry farms.

The advisory emphasizes intersectoral coordination under the One Health framework among Animal Husbandry, Human Health, Forest, and Wildlife Departments for timely zoonotic risk assessment (Source: https://dahd.gov.in/sites/default/files/2026-02/AdvisoryHPAINonPoultry_1.pdf).

NAVS(I) urges all member veterinarians to familiarise themselves with this advisory note and strictly adhere to prescribed biosafety and reporting protocols.

India Trains the World: GADVASU Sets Global Benchmark in Veterinary Dialysis Education

Guru Angad Dev Veterinary and Animal Sciences University (GADVASU), Ludhiana, has scripted history in global veterinary clinical education. In an unprecedented reversal of traditional knowledge flows, seven veterinary practitioners from South Korea travelled to India to receive advanced clinical training, a first for Indian veterinary academia and a powerful testament to the nation's rising eminence in the field.



The Dialysis Unit of the Teaching Veterinary Clinical Complex successfully conducted a landmark 5-Day Indo-Korean Advanced Hands-On Training-cum-Workshop on Intermittent Hemodialysis in Dogs from 23–27 February 2026, offering an intensive experiential platform encompassing live case demonstrations, hands-on dialysis procedures, and in-depth scientific discourse on renal replacement therapies and translational nephrology.

The event marks a defining milestone, affirming GADVASU's stature as a national and international reference centre for advanced veterinary nephrology. The workshop, supported under an Indian Council of Agricultural Research Experiential Learning Project, aims to transform the Dialysis Unit into a global hub for clinical education. University authorities underscored the transformative impact of such international initiatives in elevating clinical standards and reinforcing India's growing leadership in advanced veterinary medicine and places India at the vanguard of veterinary renal replacement therapy, no longer a learner, but a global teacher.

IVRI Produces Elite Sahiwal Calves Using Advanced Reproductive Technology

In a significant milestone for livestock genetics, the ICAR-Indian Veterinary Research Institute (IVRI), Izatnagar, has successfully produced Sahiwal calves using advanced Assisted Reproductive Technologies (ART).



The mother and five calves. Photo Courtesy: ICAR

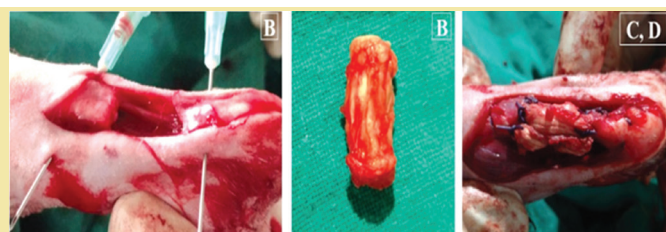
This marks the institute's first success with the OPU-IVF-ET (ovum pick-up, in vitro fertilization, and embryo transfer) technique.

Under a focused program initiated in 2022–23, IVRI scientists have standardised protocols for indigenous breeds including Sahiwal, Tharparkar, and Murrah. Their efforts culminated in the birth of five healthy Sahiwal calves within five days from 28 February 2026, derived from superior germplasm of high-yielding animals. The study also demonstrated efficient oocyte recovery and embryo development rates comparable to global standards. This breakthrough provides a scalable model to accelerate genetic improvement and conservation of elite indigenous cattle and buffalo. IVRI now plans to expand this technology nationwide and promote capacity building through training programs, encouraging entrepreneurship and wider adoption in the livestock sector.

IVRI's Universal Tendon Scaffold: A Breakthrough in Tendon Tissue Engineering

After more than 16 years of dedicated research, scientists at the Division of Surgery, ICAR-Indian Veterinary Research Institute (IVRI), Izatnagar, have achieved a landmark breakthrough in tendon tissue engineering. Dr. Rekha Pathak, Principal Scientist, and her team have developed a Universal Tendon Matrix, a bioactive, species-versatile scaffold for repair of tendon gap defects arising from excessive tendon loss.

Fabricated from natural polymers through specialised processing and enriched with growth factors, the matrix has been successfully used across multiple species, including rabbits, guinea pigs, cattle, buffalo, goats, and dogs. It offers a biocompatible, biodegradable, non-toxic, and mechanically robust alternative to autograft harvesting or synthetic carbon



Tendon grafting procedure illustrating (A, B) the tendon gap defect and placement of the xenogenic tendon scaffold; (C, D) the sutured tendon graft in situ within the defect site

fibre implants, significantly reducing procedural complexity and post-operative complications.

The matrix is tenoconductive, tenoinductive, and tenogenic, facilitating host cell migration, attachment, proliferation, and early graft integration. Its numerous ligand-binding sites promote growth factor retention and cellular differentiation, enhancing bioactivity. It has proven effectiveness



Ruptured Achilles tendon in an adult dog and the subsequent postoperative days shows the improvement in walking and weight bearing

in crushed, overstretched, necrosed, and contracted flexor tendons, and has even prevented amputation in severely traumatised limbs. Its strong mechanical properties also make it a promising candidate for ACL tear repair.

The graft is available with IVRI for the academicians and researchers for use.



Veterinary Services Becoming Increasingly Female, Yet Gender Gaps Persist

The global veterinary profession is undergoing a significant demographic shift, with women now comprising nearly half of all practitioners and close to 80% of veterinary students worldwide. While this “feminisation” reflects growing inclusivity, experts caution that true gender equality in Veterinary Services remains far from achieved.

Discussions led by the World Organisation for Animal Health (WOAH), including those at its 92nd General Session, have highlighted both progress and persistent challenges. Despite rising female participation, women remain underrepresented in leadership roles, field assignments, and practice ownership. They are often concentrated in laboratory, companion animal care, and administrative roles, where decision-making authority is limited. Additionally, a gender pay gap continues to affect women veterinarians, particularly among new graduates and top earners.

A concerning parallel trend is the declining number of men entering the profession, which may impact workforce diversity and the availability of veterinarians for rural and physically demanding roles. Structural barriers such as inadequate work–life balance policies, care giving pressures, and entrenched societal stereotypes further complicate workforce dynamics.

WOAH has identified the need for gender-responsive policies, improved data collection, and targeted strategies to ensure a balanced and sustainable veterinary workforce. Studies from Africa and Asia-Pacific regions also emphasize the importance of organizational culture, leadership development, and evidence-based policymaking.

As Veterinary Services evolve, bridging the gender gap will require systemic reforms to create an equitable, inclusive, and resilient workforce capable of meeting future animal and public health challenges. (WOAH, 2026; <https://www.woah.org/en/article/veterinary-services-are-increasingly-female-but-the-gender-gap-is-not-fully-closed-yet/>)

Curious but Untrained: Vets Welcome AI into Practice

Artificial intelligence (AI) is rapidly transforming the landscape of veterinary diagnostics, medicine, and surgery, ushering in a new era of precision and efficiency in animal healthcare. By leveraging advanced techniques from Machine Learning and Deep Learning, AI systems can analyze complex clinical data (patient history, genetic information, and



real-time monitoring data), imaging (radiographic, ultrasonographic, CT and MRI images), and laboratory (blood and serum-based biomarkers, histopathology) results with remarkable accuracy, supporting veterinarians in early disease detection and decision-making. Surgical practice is also benefiting from AI-driven innovations, including image-guided procedures, robotic-assisted surgery, and enhanced perioperative monitoring. These advancements contribute to greater surgical precision, reduced complications, and improved recovery times.

A recent study examining the perceptions of veterinary professionals toward AI highlights an interesting contrast between knowledge and attitude. A sample 673 general and emergency practitioners, board-certified and board-eligible specialists, interns, residents, technicians, and students from the Canada and United States participated in the survey. The findings indicate that while most veterinary professionals report limited familiarity with AI concepts and applications, particularly in areas such as Machine Learning and Deep Learning, they generally express a positive outlook toward its integration into clinical practice.

Participants showed a strong willingness to adopt AI technologies, especially in diagnostic imaging, where AI-assisted tools can enhance the interpretation of radiographs and other imaging modalities. Many respondents recognized the potential of AI to improve diagnostic accuracy, reduce workload, and increase efficiency in busy clinical settings. Importantly, there was little concern about AI replacing veterinarians; instead, it was largely viewed as a supportive tool that can augment clinical decision-making.

The study also emphasizes a clear need for targeted education and training to bridge the knowledge gap. Enhancing AI literacy among veterinary professionals will be critical to ensuring its effective and responsible implementation. Overall, despite current limitations in understanding, the profession appears receptive and optimistic about the role of AI in shaping the future of veterinary diagnostics and workplace practices. (Source: J Am Vet Med Assoc, 2026. doi: 10.2460/javma.25.08.0545)

Selective Fence Removal to Benefit Wildlife and Livestock

A new study by researchers from Cornell University has proposed that removing selected sections of fences across southern Africa could improve wildlife movement while maintaining livestock health safeguards. The research, published in *Frontiers in Veterinary Science*, examined three fence systems; the Northern Buffalo fence, Zambezi Border fence, and Western Border fence within the Kavango Zambezi Transfrontier Conservation Area (KAZA), the world’s largest transboundary conservation landscape spanning Angola, Botswana, Namibia, Zambia, and Zimbabwe.

Originally constructed to prevent transmission of diseases such as foot-and-mouth disease (FMD) from wildlife, particularly African buffalo, to cattle, many of these fences are now damaged and costly to maintain. The study also assessed risks linked to contagious bovine pleuropneumonia and *peste des petits ruminants*.



A male lion beside a fence in Greater Kruger National Park in South Africa.

Researchers found that several fence sections protect relatively few livestock and, in some cases, cattle are present on only one side, limiting their disease-control value as FMD may already be present in the subclinical form in some cattle populations.

The authors argue that removing portions of the Zambezi Border and Northern Buffalo fences could restore key wildlife corridors, reduce human–elephant conflict, ease ecological pressure from large elephant populations, and support tourism-based local economies. Improved connectivity is considered increasingly important under climate change scenarios affecting grazing and water availability. The study marks the first application of a structured risk-assessment framework to guide science-based decisions on disease-control fencing in the region, offering a potential shift toward more integrated livestock–wildlife management strategies. (Source: <https://news.cornell.edu/stories/2026/02/removing-southern-african-fences-may-help-wildlife-boost-economy>)

IN FOCUS

INDIA'S ANTIMICROBIAL CRISIS

The Invisible Battle: Antimicrobial Resistance in India's Livestock Sector



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Antimicrobial resistance (AMR) is often described as an inevitable collision between industrial livestock farming and the limits of modern medicine, but at its core, it reflects the extraordinary adaptive power of microbial evolution. When bacteria are continuously exposed to sub-lethal antibiotic doses through growth promoters in feed or incomplete treatment courses, susceptible populations are eliminated, leaving behind resistant survivors. These organisms multiply and transfer resistance genes horizontally, quietly outsmarting the drugs designed to kill them and jeopardizing a century of medical progress.

India's livestock revolution has been a cornerstone of its rural economy. The dairy and poultry sectors support millions of livelihoods and supply essential protein to a growing population. Yet this expansion has fueled an invisible threat. The shift toward intensive, industrial-scale production across Asia is projected to drive a 46% increase in antibiotic use in animal production by 2030. Global average annual antimicrobial consumption per kilogram of produce stands at 45 mg for cattle, 148 mg for chicken, and 1,172 mg for pigs — figures that underscore the chemical dependency embedded in high-yield industries. India currently ranks fourth globally, contributing approximately 3% of the world's antimicrobial consumption for food-producing animals, behind only China, the USA, and Brazil. This share is projected to rise to 4% by 2030, with a total estimated consumption of 200,235 tonnes.

As of 2026, the most widely used antibiotics in Indian food animals are tetracyclines (65%), penicillins (10%), and macrolides (9%). The dominance of tetracyclines is especially concerning given their critical role in both veterinary and human medicine. The “farm-to-fork” pathway has effectively become a conduit for resistant pathogens, making antimicrobial stewardship inseparable from food security and public health.

Scale of the crisis

AMR in India has evolved from a clinical concern into a systemic One Health emergency. The animal sciences sector has long relied on antibiotics not merely as medicine but as a tool for productivity, deployed as Antibiotic Growth Promoters (AGPs) and for mass prophylaxis across entire herds or flocks. Surveillance data from 2025–2026 paints a sobering picture: high prevalence of multi-drug resistant (MDR) *Escherichia coli* and *Salmonella* across poultry and dairy supply chains, and widespread detection of the *mcr-1* gene conferring resistance to Colistin, a last-resort human antibiotic in healthy broiler chickens. The presence of such resistance in asymptomatic food animals signals an effective collapse of the barrier between veterinary misuse and human medical failure.

Studies conducted under North India's One Health framework reveal that key diarrhoeal pathogens shared between humans and food animals show MDR rates approaching 60% for certain *E. coli* strains. Nationally, approximately 60% of sampled microflora shows resistance to foundational antibiotics including ampicillin, tetracycline, ciprofloxacin, and streptomycin. Without urgent enforcement of AGP bans and meaningful biosecurity reforms, AMR threatens to undo decades of gains in both public health and livestock productivity.

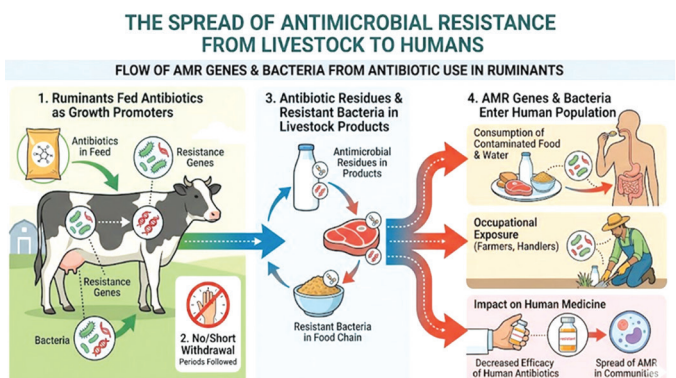
Why Resistance is flourishing: The Convergence of Causes

The AMR crisis in India is not a biological accident but the predictable outcome of deep structural failures. Antibiotics are widely used as a low-cost substitute for proper hygiene and biosecurity, with withdrawal periods routinely ignored allowing drug residues to enter milk, meat, and eggs and exposing consumers to sub-lethal doses that prime their gut microbiota for resistance.

The pharmaceutical distribution network remains largely unregulated. Over-the-counter antibiotic sales persist despite regulations, driven by aggressive marketing that bypasses veterinary oversight. Critical treatment decisions are frequently made by untrained retailers or farmers engaging in self-diagnosis, without access to diagnostic testing.

Intensive farming conditions amplify the problem. Crowded, poorly ventilated housing accelerates horizontal gene transfer between bacterial strains, enabling a single resistant organism to colonize an entire facility within days.

Underlying all of this is economic vulnerability. Small-scale farmers operating on narrow margins cannot afford the risk of disease outbreaks. Faced with potential loss of their livelihood, they prioritize immediate animal survival over the distant threat of AMR often resorting to critically important antimicrobials as a matter of financial necessity rather than choice.



India's Emerging Response: A Multi-Frontal Strategy

As the “silent pandemic” of Antimicrobial Resistance (AMR) accelerates, India has shifted from fragmented interventions to a robust, integrated strategy. Central to this evolution is the launch of the National Action Plan on AMR (NAP-AMR) 2.0 (2025–2029). Built on the lessons of the initial 2017–2021 framework, NAP 2.0 formalizes the One Health approach, recognizing that human, animal, and environmental health are inextricably linked.

The Indian government has moved aggressively to eliminate the most dangerous practices in the livestock sector. High-priority bans have been



placed on Colistin, Chloramphenicol, and Nitrofurans in animal feed, strictly prohibiting their use at all production stages. A landmark moment occurred in July 2025, when India banned a comprehensive list of 37 antimicrobial drugs comprising 18 antibiotics, 18 antivirals, and one anti-protozoan. This ban covers the entire spectrum of food-producing animals, including milch animals, egg-laying birds, honeybees, and aquaculture, signaling a zero-tolerance policy toward the misuse of human “last-resort” medicines in farming. Further, the Food Safety and Standards Authority of India (FSSAI) have significantly widened its regulatory net. Beyond feed processing, FSSAI now prohibits the use of glycopeptides, nitroimidazoles, carbadox, and streptomycin during all husbandry activities. This ensures that the ban follows the animal from the farm to the table. Furthermore, the enforcement of withdrawal periods has become a priority, ensuring that any necessary therapeutic treatment does not result in harmful residues in milk, meat, or eggs.

To ensure these policies translate into practice, the Department of Animal Husbandry and Dairying (DAHD) is spearheading a massive grassroots effort. This includes:

- **Capacity Building:** Specialized workshops and training programs for veterinarians and para-vets.
- **Standardization:** Development of clinical treatment guidelines to replace guesswork with science-based prescriptions.
- **Innovation:** Actively promoting antibiotic alternatives, such as probiotics, ethno-veterinary medicines, and improved biosecurity measures.

Supporting these efforts is the Indian Network for Fishery and Animal Antimicrobial Resistance (INFAAR), a national laboratory network that has expanded its surveillance range. By monitoring both livestock and human populations simultaneously, India is finally beginning to map the true scale of AMR, allowing for data-driven policies that can adapt to emerging resistant strains in real-time.

The Road Ahead

The year 2026 marks a turning point. AI-powered early warning systems and genomic surveillance are being integrated into the farm-to-fork chain, while growing consumer demand for antibiotic-free produce is creating market incentives for responsible farming. Yet significant challenges remain: enforcement in informal and small-scale markets is weak, many livestock owners continue to prioritize productivity over safety, public understanding of AMR is limited, and comprehensive resistance data across species remains incomplete.

Reversing this invisible battle will require fewer antibiotics, smarter farming practices, stronger regulatory enforcement, genuine grassroots education for both veterinarians and livestock owners, and a unified One Health vision that treats the farm, the environment, and the clinic as a single connected system. The policy foundations are being laid but their success depends entirely on sustained commitment at every level, from national legislation to the individual farmer’s daily choices.

DISCLAIMER

The views expressed by various authors in this publication are their own and not necessarily that of the NAVS (I). Further, news items related to selected scientific and academic advances published in this newsletter are extracted from varied sources, including scientific journals, newspapers, websites etc. They are solely meant for developing educational awareness among the members of the Academy.

SPLENDOUR SHINING VETERINARIANS

Dr Naveena B Maheswarappa Assumes Charge as Animal Husbandry Commissioner

Dr Naveena B Maheswarappa, an elected Fellow of NAVS(I); 2021–22, has assumed charge as the Animal Husbandry Commissioner (AHC) in the Department of Animal Husbandry and Dairying (DAHD), Ministry of Fisheries, Animal Husbandry and Dairying, Government of India, on 23 January 2026.



Born on 21 June 1974 in Bhadravati, Karnataka, Dr Naveena is presently serving as ICAR-National Fellow at the ICAR-National Research Centre on Meat, Hyderabad. He completed his BVSc & AH from the University of Agricultural Sciences, Dharwad (1997), and his MVSc. and PhD from the Indian Veterinary Research Institute (1999, 2002). He further enhanced his academic credentials through a post-doctoral fellowship at the University of Connecticut, USA (2008–09), and as a Visiting Scientist at Oklahoma State University, USA (2018).

With over two decades of distinguished service at ICAR, Dr Naveena has made significant contributions in livestock products technology, particularly in proteomics-based meat quality assessment, lipid-protein interactions, meat authentication, and food safety diagnostics. His pioneering work includes the development of rapid detection kits for food fraud and contributions to national and international food safety standards, including FSSAI, BIS, and Codex.

A recipient of several prestigious awards, including the ICAR Lal Bahadur Shastri Outstanding Young Scientist Award (2013), Dr Naveena is also a Fellow of the National Academy of Agricultural Sciences. He has successfully led multiple research projects funded by national agencies and industry, contributing significantly to innovation and capacity building in veterinary and food sciences.

His appointment comes at a crucial juncture for India’s livestock and dairy sector, with increasing emphasis on sustainable production, food safety, and science-driven policymaking. His vast research experience and policy engagement are expected to strengthen national programs in animal husbandry and dairy development.

The National Academy of Veterinary Sciences (India) congratulates Dr Naveena B Maheswarappa on this significant achievement and extends its best wishes for his success in his new role.

Prof Punniyamurthy receives the Padma Shri 2026 for transforming Ethno-Veterinary Medicine in India

Prof Punniyamurthy Natesan, former Professor of Pharmacology at Tamil Nadu Veterinary and Animal Sciences University (TANUVAS), has been conferred the prestigious Padma Shri (2026) under the category of Science and Engineering (Veterinary Science). This national honour recognises his pioneering contributions to Ethno-Veterinary Medicine (EVM) and antibiotic-free livestock production.



Over a distinguished career spanning more than four decades, Prof Punniyamurthy has worked to scientifically validate traditional herbal knowledge practiced by rural farming communities. By integrating principles of Siddha medicine with modern veterinary pharmacology, he standardized numerous ethnoveterinary formulations for the management of common livestock diseases such as mastitis, diarrhoea, foot-and-mouth disease, and parasitic infections. His scientific work has transformed veterinary medicine practices once considered anecdotal into evidence-based, reliable healthcare solutions.

A major outcome of his research has been the significant reduction of antibiotic residues in the milk, meat, and eggs, addressing the growing global concern of antimicrobial resistance (AMR). His approach has enabled farmers to adopt cost-effective, locally available alternatives, thereby strengthening rural livelihoods and promoting sustainable livestock production systems aligned with national and global priorities.

Committed to capacity building, Prof Punniyamurthy served as a Founder Director (2011–2017) of the PG Diploma Program in EVM, jointly conducted by TANUVAS and the Foundation for Revitalisation of Local Health Traditions (FRLTH), Bengaluru. He trained 50 veterinarians through this initiative and further extended his expertise as a trainer across several states of India including Tamil Nadu, Kerala, Sikkim, Haryana, and Punjab. He has also contributed as a consultant to leading institutions such as the National Dairy Development Board (NDDB) and the Department of Science and Technology (DST).

Internationally, he has represented India in the Netherlands, Portugal, Ethiopia, and Uganda under collaborative programs, promoting global recognition of India's ethnoveterinary knowledge systems and sustainable livestock practices.

Widely regarded as a "Quiet Revolutionary," Prof. Punniyamurthy has successfully bridged traditional wisdom and modern science. The Padma Shri not only honours his individual excellence but also acknowledges the invaluable contributions of rural communities and traditional healers. The NAVS (I) extends its heartfelt congratulations to Prof Punniyamurthy on this distinguished achievement. His life's work stands as an inspiration, demonstrating the power of integrating science, tradition, and compassion for the betterment of animal health and rural society (<https://dairydimension.com/padma-shri-2026-punniyamurthy-ethnoveterinary-medicine/>)

Prof Veer Singh Conferred IAAVP Lifetime Achievement Award

Prof Veer Singh, a distinguished veterinary scientist and Fellow of the National Academy of Veterinary Sciences, India (FNAVS), has been conferred the prestigious Indian Association for Advancement of Veterinary Parasitology (IAAVP) Lifetime Achievement Award–2024 by the IAAVP. The honour was presented during the inaugural ceremony of the 34th National Congress of Veterinary Parasitology, held at Maharashtra Animal and Fishery Sciences University, Udgir, from 17–19 December, 2025.



Widely regarded as the first academician from Gujarat to receive such an extraordinary number of national distinctions, Prof Singh's illustrious career spans over three decades of exemplary service in teaching, research, and institutional leadership. During his 34 years at Gujarat Agricultural University and Sardarkrushinagar Dantiwada Agricultural University, he transformed academic standards, strengthened student welfare systems, and spearheaded major infrastructural developments, including a world-class auditorium and modern sports facilities.

His remarkable accolades include the ICAR Jawaharlal Nehru Award (1992), the Bharat Ratna Dr C Subramaniam Outstanding Teacher Award (2006), and the Maharaja Hanwant Singh Marwar Ratna National Award (2014), alongside six prestigious national fellowships including the coveted NAVS(I).

Post-retirement, he continued his academic mission at Bihar Animal Sciences University, (BASU), Patna driving transformative reforms in postgraduate education across veterinary and allied sciences. Receiving the honour with characteristic humility, Prof Singh credited his mentors, family, colleagues, and students for their unwavering support, a journey that continues to inspire the veterinary community nationwide.

LEST WE FORGET OBITUARY

Dr Anil Kumar Srivastava (Fellow, NAVS(I); Elected 2000–01: 01 August 1957 – 25 December 2025)

The Veterinary and Dairy Science fraternity of India deeply mourns the untimely demise of Dr Anil Kumar Srivastava, an eminent veterinary pharmacologist, distinguished academician, visionary administrator, and Fellow of NAVS(I) since 2000–2001. He passed away on 25 December 2025, leaving behind a rich legacy of scholarship, institution-building, and dedicated national service.



Born on 1 August 1957, Dr Srivastava completed both his graduation (BVSc & AH, 1979) and post-graduation in Veterinary Pharmacology (1981) degrees from the College of Veterinary Science, Mathura.

He earned his Ph.D. from the Punjab Agricultural University, Ludhiana, and pursued post-doctoral research at the Institute of Toxicology, Munich, Germany, under the prestigious German Academic Exchange (DAAD) Fellowship (1988–1990). He was also conferred the degree of Doctor of Science (D.Sc. *Honoris Causa*) by UP Pt Deen Dayal Upadhyaya Pashu Chikitsa Vigyan Vishwavidyalaya Evam Go-Anusandhan Sansthan (DUVASU), Mathura, and Nanaji Deshmukh Veterinary Science University (NDVSU), Jabalpur.

He began his career at Punjab Agricultural University, Ludhiana, where he rose to the position of Professor & Head. He later served in several key academic leadership roles at Sher-e-Kashmir University of Agricultural Sciences and Technology (SKUAS-J), Jammu, including Dean and Director. His tenure as Director and Vice-Chancellor of ICAR–National Dairy Research Institute, Karnal, was marked by significant advancements in research and education, including the landmark achievement of the world's first cloned buffalo. He also served as the Member/Chairman of the Agricultural Scientists Recruitment Board (ASRB), New Delhi, and as Vice-Chancellor of the DUVASU, Mathura, contributing significantly to academic excellence and institutional development.

An accomplished scientist in Veterinary Pharmacology and Toxicology, Dr Srivastava authored and edited over 20 books, contributed 12 national policy papers, and published more than 250 research papers in reputed journals. He guided numerous postgraduate and doctoral students and served as the Founder Chief Editor of the *Indian Journal of Veterinary Pharmacology & Toxicology*.

He received several prestigious awards, including the ICAR Jawaharlal Nehru Award (1985), National Alarsin Award, and the DAAD Fellowship, along with multiple lifetime achievement honours. Besides, NAVS(I), he was a Fellow of several national academies, including the National Academy of Agricultural Sciences, the National Academy of Dairy Science (India).

Dr Srivastava held several important positions, including President of the National Academy of Dairy Science (India), and previously served as Vice-President and Secretary of the National Academy of Agricultural Sciences (NAAS). He also served as the President of the Indian Society of Veterinary Pharmacology and Toxicology, and as Patron of the Indian Dairy Association, besides holding leadership roles in numerous scientific societies and national committees, contributing significantly to policy formulation and human resource development in agriculture and allied sectors.

He represented India as Chairman/Member of several scientific delegations to countries including the USA, Belgium, UAE, Ethiopia, Pakistan, Sri Lanka, Hong Kong, Kenya, the UK, Australia, New Zealand, and Thailand, among others.



Known for his intellectual depth, administrative acumen, humility, and dedication, Dr Srivastava was a mentor and leader *par excellence*. His contributions to Veterinary and Dairy Sciences will continue to inspire generations. The Academy extends its heartfelt condolences to his family, colleagues, and students. His memory will remain ever cherished, and his legacy will live on through the institutions he strengthened and the lives he touched.

Dr Atmaprakash Mamtani (Member, NAVS(I); Elected 2005–06: 2 March 1939-12 March 2026)

NAVS(I) fondly remembers Dr Atmaprakash Mamtani, an esteemed Member (Elected 2005–06) in Veterinary Pharmaceutical Marketing, who passed away on 12 March 2026 at the age of 87. Born on 2 March 1939, Dr Mamtani was a visionary professional whose contributions significantly enriched the veterinary sector in India. He was the Founder Editor of INTAS POLIVET, a highly popular half-yearly technical journal that has rendered valuable service in promoting clinical and field-based veterinary work.

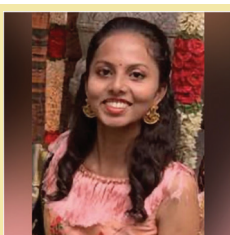


Notably, he pioneered the concept of celebrating World Veterinary Day in India, which is now observed nationwide with enthusiastic participation, including support from Intas Pharmaceuticals.

Dr Mamtani actively fostered scientific dialogue by organizing several round table conferences on clinical topics in collaboration with the Indian Association for the Advancement of Veterinary Research (IAAVR), and meticulously documented their proceedings. He also co-edited numerous scientific publications and proceedings of professional bodies. A life member of several professional associations and a widely travelled scholar, he served as a Trustee of the Dr. C.M. Singh Endowment Trust. His distinguished contributions were recognized through several honours, including Fellow of IAAVR. Even in later years, he remained a guiding force for the profession. His demise is a profound loss to the veterinary fraternity. He is survived by his loving family, colleagues, and countless admirers who will cherish his legacy. The NAVS(I) pays heartfelt tribute to the departed soul and extends sincere condolences to the bereaved family.

Dr Sameeksha Reddy (1999–2026)

The veterinary fraternity deeply mourns the tragic demise of Dr Sameeksha Reddy, a young and dedicated veterinarian, who lost her life on 20 March 2026 following a hippopotamus attack at Tyavarekoppa Lion and Tiger Safari, Shivamogga. She native of Bengaluru, had recently joined as a trainee veterinary officer after graduating in 2023 and was committed to animal care and wildlife health management.



The incident occurred late at night when she entered the enclosure of a pregnant hippopotamus to monitor its temperature using infrared thermography. The animal suddenly charged, causing critical injuries to her liver and lungs. Despite immediate medical attention, she succumbed to her injuries early the next morning.

Her untimely death highlights the inherent occupational risks in veterinary practice, particularly in wildlife settings, and underscores the urgent need for strict adherence to safety protocols, proper supervision, and risk assessment especially for young professionals in training. It is a wakeup call for National professional agencies to frame needful policies and implementation of standard operating procedures to prevent such incidents in future. Dr Reddy's noble dedication and compassion for animals will always be remembered. The NAVS(I) expresses heartfelt condolences to her family and colleagues.

GROUNDBREAKING DISCOVERIES

A NOBEL LEGACY

Lab-Grown Milk: Is This the Future of Dairy?

A groundbreaking innovation is quietly reshaping the global dairy landscape, precision fermentation, or lab-grown milk. Unlike plant-based alternatives such as soy or almond milk, this technology uses genetically engineered microorganisms to produce bio-identical casein and whey proteins, the real building blocks of cow's milk, entirely without animals.



A recently published article by Wavhal and Wakchaure (2026) in VigyanVarta provides a comprehensive analysis of this emerging technology and its implications for India, the world's largest milk producer with over 80 million dairy farmers.

The resulting product is lactose-free, cholesterol-free, and functionally equivalent to conventional dairy in cheese-making, yogurt production, and high-protein beverages. Global pioneers such as Perfect Day (USA) and Remilk (Israel) are already commercializing fermentation-derived dairy ingredients, with the global market projected to exceed USD 40 billion by 2033.

Despite its promise, significant barriers remain. Production costs are high, bioreactor scaling is complex, and regulatory frameworks, including India's FSSAI do not yet permit these products to be marketed as "milk." Consumer acceptance, particularly in culturally milk-centric societies like India, remains a key hurdle.

Rather than replacing traditional dairying, experts suggest that lab-grown milk can complement it, reducing costly whey protein imports, fostering biotech entrepreneurship, and serving niche segments such as sports nutrition and medical foods. Indian startups like Zero Cow Factory are already entering this space. The future likely lies in a hybrid model, cows and fermenters coexisting to serve a nutritionally secure, sustainable India. (Source: https://www.vigyanvarta.in/adminpanel/upload_doc/VV_0326_13.pdf).

INSTITUTIONAL LIFE MEMBER (NGO)



CORPORATE LIFE MEMBER



ACADEMIA SCHOLASTIC CONNECTIONS

ICAR-IVRI Achieves Global Recognition in QS World University Rankings 2026

In a landmark achievement for India's veterinary science faculty, ICAR-Indian Veterinary Research Institute (IVRI), Izatnagar, has been ranked in the 51-100 band globally for Veterinary Science in the prestigious QS World University Rankings 2026. This recognition marks a significant milestone for the country's veterinary education, research, extension, and innovation landscape.

The inclusion of IVRI in the global rankings underscores its sustained excellence in veterinary education, advanced research, and technology development. It also highlights the institute's pivotal role in strengthening animal health, livestock productivity, and national biosecurity.

Established in 1889, IVRI boasts a distinguished legacy of over 136 years and has evolved into India's leading veterinary research institution and a Deemed University of national importance. Its consistent top performance in the National Institutional Ranking Framework (NIRF) further reflects its strong academic standards, impactful research output, and institutional excellence.

Commenting on the achievement, Dr M L Jat, Secretary, Department of Agricultural Research and Education (DARE) and Director General, Indian Council of Agricultural Research (ICAR), noted that this recognition enhances India's global academic standing. He emphasized that IVRI's inclusion in the QS rankings reflects its growing international reputation, research strength, and global visibility.

This accomplishment places IVRI among leading veterinary institutions worldwide and also signals the rising prominence of India in global veterinary science and education. (*chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://ivri.nic.in/News/QSWorldUniversity%20RankingIVRI.pdf*)

Global R&D Spending: China Surpasses U.S., India Emerges Among Top Investors

A recent global analysis of Research and Development (R&D) spending highlights significant shifts in innovation investment across countries. The total global R&D expenditure has reached approximately \$2.87 trillion, underscoring its critical role in driving technological advancement and economic growth.

China has emerged as the world's largest R&D spender, investing around \$786 billion, slightly surpassing the United States at \$782 billion. Notably, China's R&D spending increased by 8.7% in 2024, while the U.S. experienced a marginal decline of 0.2%, marking a pivotal change in global research leadership.

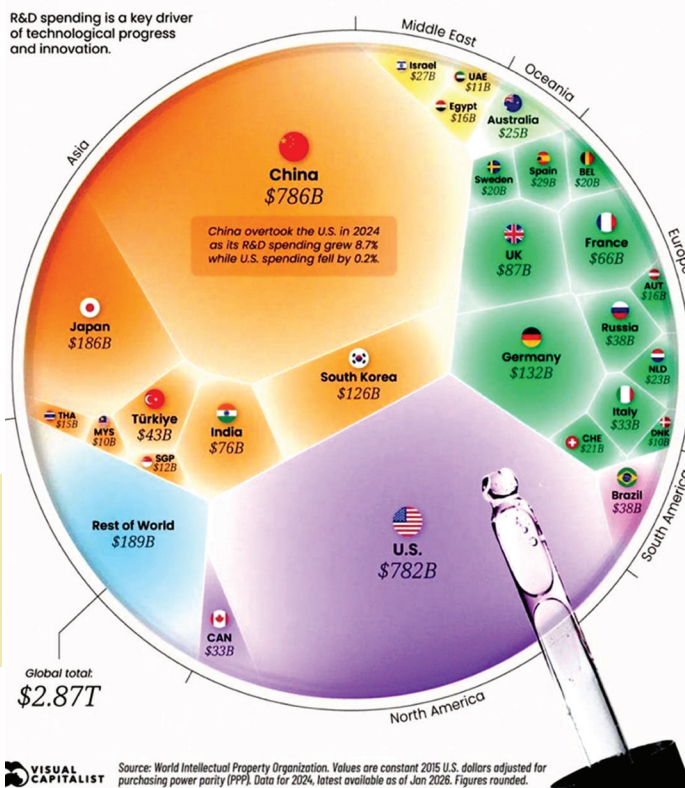
Among other major contributors, Japan (\$186 billion) and South Korea (\$126 billion) continue to maintain strong positions in Asia. India has also demonstrated encouraging growth, with R&D spending reaching \$76 billion, reflecting its expanding focus on scientific innovation and development.

In Europe, Germany leads with \$132 billion, followed by the United Kingdom (\$87 billion) and France (\$66 billion). Other notable contributors include Russia (\$38 billion), Italy (\$33 billion), and Spain (\$29 billion).

In the Middle East, Israel stands out with \$27 billion, while in Oceania, Australia contributes \$25 billion. Brazil leads in South America with

Research & Development Spending by Country

R&D spending is a key driver of technological progress and innovation.



Source: World Intellectual Property Organization. Values are constant 2015 U.S. dollars adjusted for purchasing power parity (PPP). Data for 2024, latest available as of Jan 2026. Figures rounded.

\$38 billion, and Canada reports \$33 billion in North America outside the United States.

This global distribution of R&D investments highlights increasing diversification in innovation ecosystems. The rising contribution of emerging economies, particularly India and China, indicates a shift towards a more multipolar global research landscape.

The shifting global R&D landscape underscores the growing importance of strategic investment in veterinary sciences. As emerging economies like India expand their research spending, there is a timely opportunity to strengthen capacities in animal health, zoonotic disease control, and sustainable livestock production. Aligning veterinary research with the *One Health* approach will be crucial in addressing interconnected challenges of public health, food security, and climate change. Focused funding, innovation-driven policies, and global collaborations will be key to ensure that veterinary sciences remain at the forefront of future scientific advancement. (Source: World Intellectual Property Organization; data for 2024).

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TIDBITS SOUPCON

Veterinarians: The Silent Architects of Animal, Human and Environmental Health

Veterinarians play a pivotal yet often under-recognized role in shaping a healthy, sustainable, and economically stable society. Their contributions extend far beyond clinical care of animals, encompassing public health, food safety, economic growth, and environmental stewardship.

At the forefront, veterinarians safeguard animal health, ensuring the well-being of livestock, companion animals, and wildlife. Through effective disease surveillance and control, they prevent outbreaks of infectious diseases, many of which have zoonotic potential, thereby protecting human populations as well.



A critical yet less visible contribution lies in food safety. Veterinarians monitor and regulate livestock food products such as milk, meat, and eggs, ensuring they are safe, hygienic, and free from the contaminants. This role directly strengthens public health systems, minimizing risks of hazardous residues, foodborne illnesses and zoonoses.

Veterinary professionals are also key drivers of livestock productivity and rural economy. By improving animal health and production efficiency, they contribute significantly to farmers' income, national food security, and overall economic growth. Their role in facilitating export certification further strengthens international trade in animal products.

Beyond domestic animals, veterinarians are actively engaged in wildlife conservation, preserving biodiversity and maintaining ecological balance. Their work in pet welfare enhances the human-animal bond, promoting responsible ownership and animal ethics.

In addition, veterinarians contribute to education and research, advancing scientific knowledge and developing innovative diagnostic and therapeutic approaches. Their involvement in emergency response, including disaster management and outbreak control, underscores their importance in crisis situations.

In essence, veterinarians serve as a vital link between animals, humans, and the environment, embodying the principles of One Health. Their multidimensional contributions deserve greater recognition and continued support to meet the evolving global challenges.

Rising Demand for Full-Fat Milk Signals Changing Consumer Preferences

Sales of full-fat (red top) milk are witnessing a notable resurgence, reflecting a shift in consumer preferences toward more natural and minimally processed foods. Guernsey Dairy reported a 30% increase in full-fat milk sales since 2019, rising from 568,000 litres to over 750,000 litres in 2025. In contrast, low-fat and skimmed milk consumption has declined, with skimmed milk showing a significant drop of around 23%. Similar trends have been observed by Tesco, which recorded a substantial rise in full-fat milk sales, particularly among younger consumers. (Source: <https://www.bbc.com/news/articles/c2d819ddy5o>)

Experts attribute this shift to increasing interest in protein-rich diets and

a broader move away from strictly low-fat foods. However, the British Heart Foundation has cautioned that full-fat milk contains higher levels of saturated fat and calories, advising moderation as part of a balanced diet. Overall, the trend highlights evolving dietary choices, with consumers prioritizing taste, satiety, and perceived naturalness over reduced-fat options.

African Wild Dogs Eating Fruit for First Time in Botswana

In a surprising dietary discovery, endangered African wild dogs have been recorded eating fruit for the first time in the wild, challenging their long-held classification as strict hyper-carnivores.

The observations were made in Botswana's Okavango Delta, where researchers documented a pack of 11 adult *Lycaon pictus* consuming Jackalberries, the fruit of the African Ebony tree (*Diospyrosmes piliformis*). The findings have been published in *Canid Biology & Conservation*. (Source: <https://www.envirolink.org/2026/02/04/african-wild-dogs-in-botswanas-okavango-delta-surprise-scientists-by-eating-fruit-for-the-first-time/>)

The study was led by Megan Claase, then with Wild Entrust's Botswana Predator Conservation program. From July to August 2022, all adult members of the pack were observed eating Jackalberries daily, often near their den before heading out to



Wild dog pups in Zimbabwe. Image courtesy of ZSL/Rosemary Groom.

hunt. Researchers suggest the fruit may serve as a quick energy source, while lower-ranking individuals may use it to supplement limited access to meat.

African wild dogs possess dentition specialized for rapidly consuming flesh and bone, and were previously believed to feed exclusively on animal prey. The discovery indicates unexpected dietary flexibility in the endangered species, whose global adult population is estimated at around 6,600.

Researchers noted that because wild dogs raise pups cooperatively and regurgitate food at dens, such feeding behaviour could potentially spread within and between packs. Conservationists view this adaptability as a hopeful sign for a species facing mounting pressures from habitat loss and climate change. The finding adds a new dimension to understanding the ecological resilience of one of the Africa's most threatened carnivores.

Cow in Austria Demonstrates Flexible Tool Use

In a observation reported in a journal published by Cell Press, a cow named Veronika in Austria has been documented using a tool to scratch herself, marking the first known case of flexible, multipurpose tool use in cattle. Video evidence shows Veronika skillfully manipulating a deck brush



in different ways to groom various parts of her body. Researchers noted that livestock have largely been excluded from discussions on animal intelligence, and this discovery challenges existing perceptions about cognitive abilities in farm animals.

Lioness: The True Backbone of the Pride

Scientifically, both male and female lions belong to the species: *Panthera leo*, with the distinction being purely biological. Unlike males, lionesses lack a mane, giving them a sleeker and more agile build suited for endurance and coordinated hunting. They are the primary hunters of the pride, working together with remarkable precision to secure food for the group. While male lions focus on territorial defense, lionesses ensure daily survival through teamwork, strategy, and cooperation.

At the heart of every pride, lionesses form strong family bonds i.e. sisters, mothers, and daughters who remain together for life. They raise cubs collectively, protect one another's young, and maintain social unity within the group.

Beyond their ecological role, lionesses are central to conservation efforts. As the reproductive and social core of the pride, their survival directly impacts cub success and pride stability. With lion populations declining due to habitat loss and human conflict, protecting lionesses appears crucial for the species' future.

In essence, a lioness is not just a female lion, she is a hunter, nurturer, strategist, and the enduring strength behind the pride. (<https://www.johansiggesson.com/posts/what-is-a-female-lion-called>)

GBA Proposes Pet Dog Policy and Breed Guidelines

The Greater Bengaluru Authority (GBA) is drafting a new "pet dog policy" aimed at regulating dog ownership amid rising nuisance and safety complaints from the residents. The proposed framework includes a cap on the number of pet dogs per household and breed guidelines for apartment complexes. Under the draft proposal, independent homes would typically be limited to three pet dogs, while apartments might restrict certain larger or more aggressive breeds such as German Shepherds, Rottweilers and Dobermanns in shared living spaces. Exceptions may be considered for rescued, adopted or native Indian breeds pending verification by veterinary authorities.

The initiative also outlines mandatory measures including pet licensing with annual renewal, microchipping, up-to-date rabies vaccination, and sterilization for dogs older than 12 months unless exempted on medical grounds. Enforcement provisions would empower officials to inspect compliance and levy fines for violations, with unclaimed dogs potentially handed over to animal welfare organizations.

Seven Creatures Living "Rent-Free" in Your Home — Right Now!

They didn't ask permission. They don't pay bills. But they're living under YOUR roof. A fascinating lifestyle feature reveals the hidden residents quietly sharing our living spaces, slipping through tiny cracks, hiding in corners, and thriving completely unnoticed. The surprising truth? Many are actually secret allies in your home's natural ecosystem!

Meet Your 7 Uninvited Housemates:

- House Lizards:** Those lightning-fast geckos on your walls are your personal mosquito elimination squad, hunting flies and insects 24/7!
- Spiders:** These eight-legged architects are nature's pest control experts, trapping unwanted insects in their webs so you don't have to.
- Ants:** These tireless scouts are your cleanup alert system, wherever they march, they're flagging crumbs, spills, or moisture problems.
- House Centipedes:** Despite their alarming appearance, these speedy predators are silent guardians hunting cockroaches and silverfish in damp areas.
- Silverfish:** These ancient, fast-moving insects hide in closets and bookshelves, feeding on paper and starchy materials.
- Cockroaches:** Ultimate survivors and nighttime explorers, revealing exactly where food debris and moisture accumulate.
- Mice:** Remarkably resourceful rodents that squeeze through dime-sized gaps searching for food and shelter.

Why This Matters

These creatures are living indicators of your home's condition, pointing to moisture issues, food debris, and structural gaps needing attention. Even better, residents like lizards, spiders, and centipedes provide free, natural pest control without chemicals! Take a closer look around your home. You might be surprised by the hidden ecosystem thriving right under your nose! (<https://indianexpress.com/article/lifestyle/pets-animals/7-animals-that-live-in-your-house-rent-free-10482616/>)

SPOTLIGHT FROM ABROAD

SHAPING FUTURE ANIMAL CARE

Global Reflections Reinforce the Need for Early Animal Care Vocational Training in India

Building upon the thought-provoking article "Learning from Sweden: A Case for Early Animal Care Vocational Training in India" published in the previous issue, valuable insights have been received from Dr Srinivasan Ramanathan, Fellow, NAVS(I), currently Managing Director, North Olympia Animal Hospital, USA.



Dr Ramanathan commended the newsletter for its editorial quality and highlighted how the Swedish model resonates with earlier educational structures in India. Reflecting on his own schooling in Chennai nearly five decades ago, he noted that students were streamed at the secondary level into distinct academic and vocational tracks viz. engineering, biological sciences, or hands-on trades such as carpentry and mechanics. While this system provided early direction, it notably lacked any structured exposure to animal care or species-specific husbandry.

Drawing comparisons with the United States, Dr Ramanathan emphasized that many secondary schools there now offer vocational pathways in animal care disciplines. Students can pursue structured training during high school, followed by associate degrees in veterinary technology or animal care. These programs not only create skilled veterinary assistants and animal care professionals but also serve as stepping stones for higher education, including veterinary degrees.

He further shared his personal experience of mentoring high school students undergoing practical training in his veterinary hospital. Many of these trainees later pursued careers in animal care, demonstrating the effectiveness of early exposure and hands-on learning.

Dr Ramanathan strongly advocates for the introduction of similar vocational pathways in India, underscoring their affordability, practicality, and relevance. He pointed out that such programs can play a transformative role in guiding young students toward meaningful careers, while also addressing the growing demand for trained manpower in the animal care sector.

Importantly, he noted that vocational education up to the secondary level in the United States is provided free of cost, making it widely accessible. He suggested that adopting comparable models in India could significantly strengthen the foundation of veterinary and allied sectors.

These global perspectives further reinforce the urgent need to explore and implement structured animal care vocational training at the school level in India. The NAVS (I) continues to encourage its Fellows worldwide to share such valuable insights for the collective advancement of the profession.

Breakthrough in Multi-Strain FMD Vaccine in South Africa

The Agricultural Research Council (ARC) of South Africa has announced a significant scientific milestone by producing South Africa's first locally



manufactured Foot-and-Mouth Disease (FMD) vaccine in more than two research decades. The initial batch of approximately 12,900 multi-strain vaccine doses was developed and released from the ARC's Onderstepoort facility, marking a major step in strengthening the nation's livestock health and agricultural biosecurity.



Production is expected to expand, with weekly output rising to an estimated 20,000 doses by March 2026 and further scaling up in the coming year to meet broader vaccination needs.

Such developments will reduce dependence on imported vaccines, a shift crucial for protecting farmers, stabilising livestock markets, and supporting efforts to regain international disease-free status.

Local vaccine production also enables faster response times during outbreaks and better alignment with regional disease strains, enhancing control measures for cattle, sheep, goats and other cloven-hoofed animals. This achievement underscores South Africa's renewed focus on agricultural research, biosafety capability and long-term resilience in animal health. (Source: <https://www.arc.agric.za/MEDIA%20STATEMENT/Foot%20and%20Mouth%20Disease%20Vaccine%20Development%20in%20South%20Africa.pdf>)

Singapore Court Fines Indian-Origin Woman over Rs 2 Lakh for Repeatedly Feeding Pigeons

A Singapore court has fined a 71-year-old Indian-origin woman SGD 3,200 (approximately Rs 2.27 lakh) for repeatedly feeding pigeons despite prior warnings and a previous conviction.

Sanmugamnathan Shamla, a resident of Toa Payoh housing estate, pleaded guilty to four charges under the Wildlife Act, with five additional similar charges taken into consideration. According to reports by PTI and Channel News Asia, she fed pigeons nine times between July 2025 and January 2026.

The court noted that Shamla had earlier been fined SGD 1,200 in May 2025 for feeding wild birds and interfering with a pigeon-trapping exercise conducted by the National Parks Board (NParks). At that time, she had given an undertaking not to repeat the offence.



During the latest hearing, prosecutors described her as a repeat offender who had shown "persistent disregard for the law," arguing that only a meaningful financial penalty would serve as a deterrent. Shamla, who appeared without legal representation, requested a reduced fine citing unemployment and lack of medical insurance, but agreed to pay the SGD 3,200 penalty the same day.

Under Singapore's Wildlife Act, intentional feeding of wildlife without written approval can attract fines of up to SGD 10,000 per charge. Authorities reiterated that feeding pigeons can lead to public hygiene concerns, increased bird populations near residential areas, and potential health risks, including bacterial infections such as Salmonella.

The case underscores Singapore's strict enforcement of wildlife and public hygiene regulations, particularly in instances of repeat violations.

BEYOND THE BOUNDARIES SISTER SCIENCES

Single Injection Therapy Shows Promise in Healing the Heart after Attack

In a major breakthrough, scientists have developed a novel RNA-based therapy that could enable the heart to repair itself after a heart attack, addressing a long-standing challenge in cardiology. Unlike current treatments that mainly restore blood flow, this new approach aims to regenerate damaged heart tissue. Researchers led by Dr Ke Cheng at Columbia Engineering reported in *Science* that a single injection of specially designed RNA particles can turn skeletal muscle into a "drug factory."

Once injected into the arm or thigh, the therapy instructs muscle cells to produce an inactive precursor of atrial natriuretic peptide (ANP), a molecule known to support heart repair.



Inspired by the regenerative abilities of newborn hearts, scientists have created an injectable RNA therapy that turns muscle into a temporary drug factory, offering a potential new way to repair the injured heart from within. Credit: Shutterstock

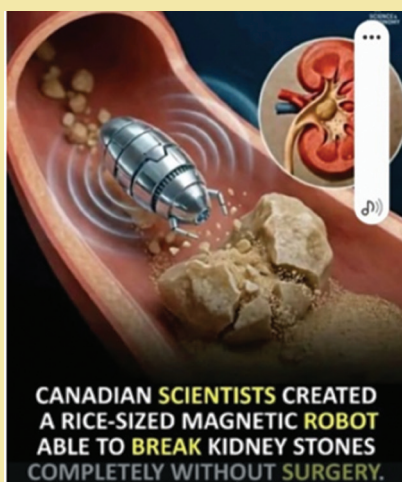
This precursor travels through the bloodstream and becomes activated only in the heart, promoting blood vessel growth, reducing inflammation, and limiting scar formation.

Preclinical studies in small and large animals showed that one injection significantly reduced scar tissue and improved heart function for up to four weeks. Importantly, the therapy remained effective even when administered days after a heart attack and in animals with conditions like diabetes.

This minimally invasive strategy could offer a safer and more accessible alternative to complex procedures such as heart surgery or cell-based therapies. Researchers are now preparing for early-stage human trials. If successful, this innovation could transform treatment not only for heart disease but also for other conditions involving tissue damage. (*Science* 2026; DOI: 10.1126/science.adu9394)

Magnetic Micro-Robot Breakthrough for Non-Surgical Kidney Stone Treatment

In a remarkable advancement poised to transform urological care, researchers from the University of Waterloo, led by Drs. Afarin Khabbazian and Veronika Magdanz as part of an international team, have developed a pioneering tetherless, enzyme-loaded soft magnetic miniature robot designed for the treatment of uric acid kidney stones. Roughly the size of a grain of rice or fashioned as a thin, flexible, centimeter-long gelatin-based strip embedded with micromagnets and the enzyme urease, the device represents a significant leap in minimally invasive medical technology.



The soft magnetic robot is precisely navigated through the urinary tract using external magnetic fields generated by a robotic arm, with real-time ultrasound guidance ensuring accurate positioning. Unlike conventional approaches such as lithotripsy or invasive surgical removal, this innovative technique eliminates the need for incisions and reduces the severe discomfort typically associated with traditional procedures.

Once it reaches the targeted stone, the embedded urease enzyme locally elevates urine pH by converting urea, thereby accelerating stone dissolution. Laboratory studies have demonstrated enhanced chemolysis, including approximately 30% reduction in stone mass over five days, enabling fragments small enough to pass naturally.

This cutting-edge development signals a new era in non-surgical, precision-guided therapy and holds immense promise for safer, patient-friendly management of kidney stone disease worldwide. (Source: Advanced healthcare materials. DOI:10.1002/adhm.202403423)

Plastic-Eating Fungus Offers Hope against Global Pollution Crisis

Scientists have identified a remarkable fungus in the Amazon rainforest that can naturally degrade and consume plastic, opening new possibilities in the global fight against plastic pollution. Notably, this fungus is capable of breaking down plastic even in oxygen-poor environments, a feature that makes it especially promising for use in landfills and other low-oxygen waste sites.

The discovery holds significant potential for reducing the mounting burden of plastic waste in the terrestrial and marine ecosystems. Researchers believe that harnessing such biological solutions could contribute to restoring environments severely impacted by persistent plastic pollution and support sustainable waste management strategies worldwide. (Source: <https://timesofindia.indiatimes.com/science/plastic-eating-fungi-could-help-clean-up-oceans-say-scientists/articleshow/122821511.cms>)

Corrigendum

Dr H M Saxena, Fellow of NAVS(I), identified a factual error in the news item “Veterinary Science and the Nobel Legacy” (NAVS News Vibes, October 2025, p. 11), where it was stated that “no veterinarian has yet received a Nobel Prize.”

This statement is incorrect. Peter Doherty, a trained veterinarian, was awarded the Nobel Prize in Physiology or Medicine in 1996 (jointly with Rolf Zinkernagel) for their discovery of MHC class I-restricted antigen recognition by cytotoxic T cells. Dr Doherty graduated in Veterinary Science from the University of Queensland and later earned his PhD from the University of Edinburgh.

The editorial team thanks Dr Saxena for highlighting this inadvertent error. The correction has been incorporated in the online version; however, as print copies had already been distributed, this corrigendum is published here in the April 2026 issue (Vol. 6, Issue 2).

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