



July 2015

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NAVS NEWSLETTER

(Quarterly)

FOR PRIVATE CIRCULATION ONLY
NEW DELHI

Veterinarian's Oath

Being admitted to the profession of veterinary medicine, I solemnly swear to use my scientific knowledge and skills for the benefit of society through the protection of animal health, the relief of animal suffering, the conservation of animal resources, the promotion of public health, and the advancement of medical knowledge.

Editor: Prof. Dr. R.N. Kohli

NATIONAL ACADEMY OF VETERINARY SCIENCES (INDIA)

Office: G-4, A Block, NASC, Dev Prakash Shastri Marg, New Delhi-110 012

NAVS NEWSLETTER

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JULY, 2015

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NAVS(I) Website: www.navsindia.org

NATIONAL ACADEMY OF VETERINARY SCIENCES (INDIA)

OUR MISSION

“To consolidate and promote the views of scientific community on all policy matters related to Veterinary Science and Animal Husbandry in the welfare of India; to encourage better training and utilization of veterinary talent and enterprise in the country; to strive for advancement of livestock sector in the national economy; to promote animal welfare; to protect environment; and to safeguard the interests of the profession and to gain greater recognition and acclaim for it”.

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1. First NAVS Convocation: 18th December 1996 at Vigyan Bhawan, New Delhi
2. Second NAVS Convocation: 30th January 2000 at Pragati Maidan, New Delhi
3. Third NAVS Convocation: 16th April 2002 at IVRI, Izatnagar, U.P.
4. Fourth NAVS Convocation: 7th May 2005 at GBPUAT, Pantnagar, Uttrakhand
5. Fifth NAVS Convocation: 5th May 2006 at JNKVV, Jabalpur, M.P.
6. Sixth NAVS Convocation: 28th June 2007 at KVAFSU, Bangalore, Karnataka
7. Seventh NAVS Convocation: 16 May 2008 at SKUAST, Jammu, J & K
8. Eighth NAVS Convocation: 23rd January 2009 at SVVU, Tirupati, Andhra Pradesh
9. Ninth NAVS Convocation: 30th October 2010 at NDRI, Karnal, Haryana.
10. Tenth NAVS Convocation: 12th November 2011 at RAJUVAS, Bikaner, Rajasthan.
11. Eleventh NAVS Convocation: 2nd November 2012 at DUVASU, Mathura, U.P.
12. Twelfth NAVS Convocation: 28th January 2014 at LUVAS, Hisar, Haryana
13. Thirteenth NAVS Convocation: 28th February 2015 at CGKV, Durg, Chhatisgarh

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2. EDITOR'S NOTE

2.1: NAVS HANDBOOK-2015; Attention: NAVS Fellows/Members

NAVS (I) is publishing an NAVS HANDBOOK - 2015. Apart from the other information about the Academy, the NAVS HANDBOOK - 2015 **will also include a brief profile of all the Fellows, Members and Associate Members of the Academy.** A letter seeking information in this regard has been **sent by email** to all those who have an email ID. Letters have also been **sent by post** to those who have either no email ID or to whom our aforesaid email has not reached for reasons beyond our control or for unknown reasons. If any of the Fellows, Members or Associate members has not received any of the above communications, it may be due to a change of his/her email ID or postal address. We advise them to check the NAVS Website (www.navsindia.org) for their names and contact particulars in the NAVS Directory 2010, NAVS Communication Directory 2014 and other chapters of the website and send me their current contact details so that another request letter is sent to them for publication of their current profile in the NAVS Handbook. Please send your response to me both at rnkohli@gmail.com and at editornavshandbook15@gmail.com. The Fellows/Members who have already received the said e-mail or a letter by post, and have either sent the required information or are in the process of doing the same, may please ignore this note.

2.2: WORLD DAYS CELEBRATED in the LAST QUARTER

2.2.1: World Veterinary Day - April 25

A Veterinarian's day of pride.

2.2.2: International Mothers Day - May 10

Mother is the creator and protector of life.

2.2.3: World Milk Day - June 1

Milk is the nectar of life

2.2.4: World Blood Donor Day - June 14

Blood is the essence of life.

Blood collection from voluntary non-remunerated blood donors is the cornerstone of a safe and sufficient blood supply in all countries. More voluntary blood donors are needed to meet the increasing needs and to improve access to this life-saving therapy.

2.2.5: World Yoga Day - June 21

Yoga is for the wellbeing, longevity and much more

2.3: Forty Life Tips

These 40 life tips were collected from men and women 85 or older. Some have been through wars, others through depressions, sickness, and even concentration camps. They are a generation that was unlike any other, and we can all profit from their advice, because these days, it is never too late to get good advice. The following post that appeared in a Social Networking Site is being reproduced for the benefit of the readers of this Newsletter:

HEALTH

1. Drink lots of water.
2. Eat your breakfast like kings, your lunch like princes, and your dinner like beggars.
3. Eat more things that grow on trees and plants and less things that are made in factories. Remember your digestive system doesn't know it's the 21st century, so help it out by feeding it stuff it's built for.
4. It's always a good time for some TEE - Truth, Energy and Empathy!
5. Walk 10-30 minutes a day.
6. Get more actual games in your life, games that have no gain but the simple pleasure of playing them.
7. Read more books than you've read last year.
8. Sit silently (without a tv) for at least 10 minutes a day and take time to ponder things (for some - pray).
9. Invest at least 7 hours a night in your sleep. It'll pay back big time later on.

CHARACTER

10. Smile while you walk those 10-30 minutes a day.
11. do not compare your life to those of others, it's easy to see the good but the bad is as well hidden as yours, or better. You have no idea what their lives are really like or if they are happy inside, get on with yours instead.
12. Don't waste time and energy thinking of things you will never be able to change. Instead, use that energy to works towards future positive moments. Make your spouse laugh for a moment, isn't that better than feeling bad?
13. Don't be extreme in any action. Remember that truth is mostly in the middle, and life is hardly black and white.
14. Accept the fact that you will sometimes lose the arguement, and that you were wrong. Or if you still think you are right, agree to disagree. Very few people have ever been shouted into true agreement.
15. Don't waste your energy complaining about people you don't know and their actions. You have no idea what motivates or what lead them to that decision. Judging is so easy even 4 year olds can do it. The driver honking at you might have had a horrible day, or is anxious to see his sick wife at the hospital while worried about making rent. We only see the behavior, never the events leading to it.
16. Dream more while you are awake.
17. Envy is a waste of time. You already have what you need, and being envy won't create more for you.
18. Try to never again bring up your spouse's past mistakes. It WILL destroy your present happiness, and even being right - just isn't worth it.
19. Life is too short to hate people. You should fear some and pity others, but hate is a bigger waste of time than any other emotion.
20. Make peace with your past, or it will make short work of your future.
21. No one controls your level of happiness but you.
22. Life is the school, remember that you are here to learn. Problems are like tests, and the lesson you take will help you solve the next one correctly.
23. Smile and laugh more with your entire face, including your eyes. Find humor when you can.
24. Don't take yourselves so seriously, no one else will!

COMMUNITY

25. Call your family often enough so they feel like you are walking besides them in this life.
26. Every day - do at least one good thing for others that really helps them out. It will make you feel better about your own and later on - someone grateful will help you when you need it.
27. Try to forgive, it's the hardest thing there is, much harder than hate, but it's doable.
28. Spend some time with people over 70 and under 6 - it will teach you patience and empathy.
29. Try to make at least 3 people smile, every day.
30. What other people think of you is none of your concern, since they'll never tell you! So why bother? Live your life and stop wondering what's on the other side of their skulls, you will never know the complete truth!
31. Your work buddies won't take care of you when you're sick. Your family and friends will. Don't let people that care about you out of your life. We all need help at some point, don't throw caring away.

LIFE

32. Do the right thing. The kind that doesn't leave anyone hurt, despite your personal feelings. It will be worth its while in the long run.
33. Get rid of anything that isn't useful, beautiful, sentimental or brings you true pleasure in life.
34. Forgiveness can heal more than you can ever imagine. It can revive relationships and rekindle love and true appreciation. Forgiveness is way to show strength, and strength is impressive and attractive.
35. Doesn't matter how good or bad the situation is - it will change at some point. So plan for either and don't lose your head to over joying or over fearing.
36. Doesn't matter how you feel at this particular moment - get up, get dressed and be there on time. A good start will help get rid of that feeling.
37. If actors can become huge successes in their 70's, you can believe that the best is yet to come. And if it isn't, then try to create the best for someone else, it will often be surprisingly great for you as well.
38. When you wake up alive in the morning, don't take it for granted - embrace life!
39. The biggest secret is that anyone can be happy. But some decide they won't be and then look for reasons to support that theory. Don't fall for that! Assume you are happy and find reasons to support that claim! Keep creating these reasons, and you just might start believing it.
40. Enjoy yourself, every day. Remember, life is just a ride, and you are shown many different things, some wonderful, other awful. But you always continue and it is always just a ride. Enjoy it.

Prof. Dr. R.N. Kohli
Honorary Editor, NAVS (India)
rnkohli@gmail.com

3. LETTERS TO THE EDITOR

Dear Prof. Kohli, As usual, April issue of the Newsletter comes as a capsule containing diversified in-formations for the entire professional network that too delivered well before time. I fail to desist myself in swallowing the capsule in a single go. Heartiest Congratulations. **Dr Jitendra Singh Bhatia**; (Former ADG (EDU), ICAR); 8, Khalsa College, GT Road, Amritsar, Punjab; <bhatiajs05@rediffmail.com>; MOB-09316612588

Your newsletter is always useful and devoted to information sharing! **Dr Ravish C Maheshwari**, (Former Vice Chancellor, SDAU); maheshwarirc2002@yahoo.co.in ravish.maheshwari@gmail.com; maheshwarirc2002@yahoo.co.in; Tel: 0124-2588129

Thank You, Prof. Kohli, for a very informative Newsletter. We appreciate your hard work. **Dr. R. K. SINGH**, Director/Vice Chancellor, Indian Veterinary Research Institute (Deemed University), Izatnagar-243 122, India. email: rks_virology@rediffmail.com;

Dear Dr. Kohli, Thanks for the latest issue of the NAVS Newsletter. It gives a bird's eye view of the latest developments and recent happenings in the Veterinary profession in India besides updating on important professional issues. I am not aware of any other comparable publication covering such a wide range of issues in a timely manner. My sincere tributes to the two recently departed doyens of our profession: Dr. B K Soni and Dr. Balwant Singh who left their mark on the profession. I congratulate you on your dedicated efforts in meticulous compiling and editing of the newsletter. **Dr. Hari Mohan Saxena**, Professor of Immunology, College of Veterinary Science, Guru Angad Dev Veterinary & Animal Sciences University (GADVASU), Ludhiana 141004 India. email ID: hmsaxena@yahoo.com

Dear Dr Kohli, It was wonderful to go through the NAVS NEWSLETTER, April 2015, which is as usual knowledge enriching besides supported with important news & views. I am very sorry to learn that Dr Soni is no more! I had met him on several occasions especially when I was posted as the Southern Regional Director NDDB & Head the than Indian DAIRY Corporation. I recall him as a soft spoken & very professional person. Please convey my heartfelt condolence to the bereaved family members of Dr Soni. May his soul rest in heavenly peace!

Animesh Banerjee; (Former President, Indian Dairy Association)
<banerjeeanimesh@rediffmail.com>

Dear Dr. Kohli, Received Newsletter; as usual it is very informative and well formatted. You are keeping NAVS in limelight and making difference between hopeless and hopeful. The NAVS meeting was quite an experience and fortunately for me that you were there to enrich my trip. Thank you for expressing nice sentiments and I reciprocate the same with equal vigor. My sincere thanks to you, Sir once again. Warm regards,

Dr. Autar Karihaloo (A Karihaloo <karihaloo@gmail.com>) USA

Dear Dr. Kohli, I have gone through the recent Newsletter of NAVS and amazed at the efforts made by you to come out with the Newsletter covering the news from all over the country and globe. The good thing is that the Newsletter is published consistently and covers major events of the Animal Science. The Science, Health and Safety is also very useful to the readers. The quality publication would have not been possible without your commitment and dedication. I wish you and the Newsletter a Healthy life ahead.

Dr. Arvind INGLE, Officer-in-Charge, Laboratory Animal Facility, Tata Memorial Centre, ACTREC, Kharghar, Navi Mumbai- 410 210, MS. India. e-mail: aingle@actrec.gov.in

Dear Prof Kohli, Thanks for bringing out regular issues of NAVS Newsletter. It was interesting to read through the multifaceted current issue to keep us informed on the latest developments of veterinary profession in India and abroad.

Dr. M S Oberoi, Animal Health Consultant. (Formerly: Sub regional ECTAD Manager, Food and Agriculture Organization of the United Nations (FAO); DEAN, College of Veterinary Science, Punjab Agricultural University, Ludhiana, India). email: mohinder.oberoi@gmail.com

Thanks for providing comprehensive information about the happenings, events, news and views about Veterinary and Animal sciences in the NAVS Newsletter. The health tips given in the Newsletter are really valuable information to keep us healthy and active. Respectful regards

Dr Gajraj Singh drgajrajs@gmail.com

Dear Prof. Kohli, Many thanks for the April 2015 issue of NAVS Newsletter. If I have to express my opinion about it in a laconic expression, I will use one word: "**Splendid**".

Dr. J. L. Vegad; jawaharlalvegad@gmail.com

Thanks for sharing with us NAVS Newsletter. We would definitely be reading it regularly. Kindly keep forwarding the same & keep us in touch.

Priyanka Sahu, Executive Assistant to President, I B Group, priyanka_sahu@ibgroup.co.in +917898801945; www.ibgroup.co.in/priyanka_sahu@ibgroup.in

Dear Dr Kohli, I congratulate you for doing a yeomen service by compiling and editing the NAVS Newsletter. Really, this has been an important source to know about our profession and our professionals. It is important for many of us to read the obituaries of dignitaries which you are publishing. This gives us a way to know more about our past luminaries.

Meanwhile, some professionals might be writing blogs pertaining to veterinary sciences. It will be better if next issue of NAVS letter provide some addresses of these blogs so that more interaction may be carried out. I am mentioning three blogs which i am operating and discussing different problems. Obviously, the retired persons have more freedom to air the views which may not be possible other wise. www.indianschistosomiasis.blogspot.com; www.indianparasitologists.blogspot.com; www.jvcalumniassociation.blogspot.com

Dr. Mahesh Chandra Agrawal, (Formerly: National Fellow & Emeritus Scientist, ICAR and Dean, Veterinary College, Jabalpur) email: <drmcagrawal@gmail.com>

Dear Dr Kohli, I have received the April 2015 issue of NAVS Newsletter. It has come-out nicely as usual loaded with useful veterinary information. You are really doing a great job for the profession. **Dr. D.N. Garg**, Member, Governing Council, NAVS; email: dng2660@gmail.com

Respected Dr. Kohli, I am highly thankful to you for timely bringing out and regularly sending the very informative Newsletter of NAVS to the Fellowship. It has been a pleasure to go through the contents covering diverse aspects of Veterinary Science in general and specified topics in particular. I have not been able to participate in the activities of NAVS, except participating in the Brainstorming Session on livestock fertility, but feel very much concerned that there should be a think tank to give a new direction to make academy more relevant in national policy issues and decisions. I am sure that the present leadership in the academy might be already thinking in this direction. **Dr. Khub Singh**; email: ksingh.chairman.jrdrf@gmail.com

Women livestock keepers are key to global food security

Women livestock keepers are key to global food security. Those working to support women in livestock development have just received some support of their own. Small livestock are particularly important to women as they contribute to household food security and provide much-needed funds for school fees and other family-related expenses. About 752 million of the world's poor keep livestock to produce food, generate income, manage risks and build up assets. In rural livestock-based economies, women represent two-thirds (some 400 million people) of low-income livestock keepers. In the Gambia 52% of sheep owners and 67% of goat owners are women. In the mountains of Chiapas, Mexico, sheep husbandry is mainly women's responsibility, providing 36% of household income through wool processing and sale. In Afghanistan, traditional backyard poultry activities are carried out entirely by women, who manage an average of 10 hens that produce some 60 eggs a year, sufficient for household consumption. And across the world's regions and cultures, milking and milk processing are mainly undertaken by women.



4: FROM THE PRESIDENT'S DESK

PARASITES AND PARASITIC DISEASES: THE ISSUES AND FUTURE PERSPECTIVES

Parasites and parasitic diseases continue to be one of the most important constraints to animal health and productivity systems throughout the world, particularly in hot and humid countries like India resulting in widespread morbidity and mortality and associated economic losses both to commercial and subsistence farmers. In India, more than 300 species of nematodes are known to be associated with gastro-intestinal parasitism in livestock and there is no wonder that the economic losses incidental to these ubiquitous parasites are immense. The effect of a parasitic disease in a given production system is seen in the manner in which it reduces the productivity, i.e. the efficiency of inputs converting into outputs. This effect can result either by decreasing the value of outputs for a given level of inputs or by requiring a higher level of inputs to achieve a given level of output, or both. The direct reduction in productivity caused by disease can thus result in losses that are clearly visible to the farmer as the death of affected animals; a marked drop in production; inferior product quality e.g. damaged hides; invisible losses in the form of unrealized production potential, for example in the form of decreased fertility resulting in 'calves not born', etc. In addition to these direct losses, these diseases also cause indirect losses through additional costs incurred to avoid or diminish its incidence (e.g. de-worming, vaccination, quarantine). Other indirect effects concern revenue forgone as a result of denied access to better markets or of the forced adoption of production methods which do not allow the full exploitation of the available resources (e.g. use of trypanotolerant cattle of low milk production potential in Africa).

Although, there are limited studies on economic interpretation of these parasitic diseases, the estimated treatment costs of over Rs. 600 crores was incurred on control programmes of haemonchosis in sheep alone in India during the year 2004, while, the annual losses due to worm infestation to sheep industry in Rajasthan was valued at Rs. 120 crores. Another stand-alone example of staggering monetary losses recorded in India are due to tick and tick-borne diseases, which affect more than 80 per cent of cattle population.

These data only reaffirm the importance of developing appropriate strategies for sustainable control of pathogenic parasites to realize the optimum returns from the livestock sector. Ironically, in the absence of putative vaccines, chemotherapy is the only preferred method of limiting the impact of parasitism in livestock. The market for anti-parasitic drugs has been the fastest growing sector of the overall animal health products market. However, due to over dependence on a few selective chemotherapeutics, the threat of widespread drug resistance has resulted in emergence of increasing number of drug resistant parasites leading to multiple drug-resistant populations of several gastrointestinal nematodes and arthropods from many tropical, subtropical and temperate regions of the world. In livestock, drug resistance has been reported to every anthelmintic class in every livestock host today.

A recent report of the FAO draws attention to the growing menace of ectoparasites particularly the tick and mite infestations prevalent in man and animals and the growing acaricide resistance in ticks in more than 24 countries to organophosphorus compounds and

amidines. Further, the long-term use of hazardous chemicals as parasiticides is leading to the development of many societal, governmental and environmental issues.

Many parasitic helminths of importance have a genetic endowment that favours development of anthelmintic resistance, which is increasingly becoming a major limitation in livestock production. Development of variable degrees of resistance among different species of gastrointestinal nematodes has been reported for all the major groups of anthelmintic drugs. It is now well appreciated that frequent usage of the same group of anthelmintic; use of anthelmintics in sub-optimal doses, prophylactic mass treatment of domestic animals and frequent and continuous use of a single drug have all contributed to the widespread development of anthelmintic resistance in helminths. The degree and the extent of this problem especially with respect to multidrug resistance in nematode populations is likely to further increase. Maintaining parasites in refugia and not exposed to anthelmintics, is a key point in controlling and delaying the development of resistance, because the susceptible genes are preserved. Targeted selective treatment is a good choice in the present dispensation. Additionally, adoption of strict quarantine measures and a combination drug strategy are two important methods of preventing of anthelmintic resistance. The past global experience from the development of anthelmintic resistance suggests that modern control schemes should not rely on sole use of anthelmintics, but employ other, more complex and sustainable recipes, including parasite resistant breeds, nutrition, pasture management, nematode-trapping fungi, antiparasitic vaccines and herbal formulations as de-wormers. Most of them reduce reliance on the use of chemicals and are environmental friendly. Finally, slowing down the development of drug resistance should be the motto, even if new anthelmintic products are released in the market. This can possibly be achieved by releasing the new drug compounds in combination with one or more of the older active and promising anthelmintic classes.

Besides, many parasitic diseases are a major cause of animal and human diseases. The number of protozoan and helminthic parasites causing human infections has increased considerably over time. Presently, there are about 300 helminthic parasites and 70 protozoal agents known to cause disease in humans. Of these, many are of course rare and accidental parasites, but about 90 species of parasites are well known to cause infection in humans. WHO estimates that one person in every four is affected by parasitic worms with disease outcomes ranging from chronic symptoms, blindness, and disfiguration to death. Protozoal pathogens are emerging as another important class of pathogens with zoonotic potential in many parts of the world including India. The number of newly identified protozoal pathogens causing human infections is on the rise. Significant increase in the number of immunocompromised people (HIV infected), increase in international travel, deforestation, and widespread urban dwellings are some of the other important factors contributing to this changing epidemiology of protozoal diseases. The previously recorded protozoan pathogens which caused sporadic human infections are now known to cause more frequent disease leading to an increase in morbidity and mortality caused by them. To cite a few examples, *Naegleria*, *Acanthamoeba* and other free-living amoebae like *Balamuthia* and *Sappinia* are being increasingly reported to cause meningoencephalitis in humans. *Plasmodium knowlesi*, a zoonotic malarial parasite, has today become a major cause of human malaria in Southeast Asia. *Trypanosoma evansi* and *Trypanosoma lewisi*, which normally infect horses and rodents, respectively, have been sporadically reported to cause human trypanosomiasis in India. Interestingly, *Balantidium coli* is emerging as an important cause of dysentery especially in the immunocompromised population.

In India, where a significant proportion of population lives in close proximity to cattle and pigs, *B. coli* can potentially emerge as a significant pathogen in cases of dysentery, especially in the immunocompromised population. *Babesiamicroti* has become an important cause of transfusion transmitted babesiosis in countries like the United States. *Babesia* can be misdiagnosed as *Plasmodium* and as blood transfusion is becoming more common in India, it is necessary to develop diagnostic tests to rule out this pathogen in blood donors. Increased awareness among clinicians, pathologists, and microbiologists along with other factors like constant surveillance and improved diagnostic are important to timely detect and render proper treatment of these emerging protozoan pathogens in humans. The acarine ticks, as vectors of several zoonotic diseases, are ranked second only to the common mosquitoes as vectors. The diseases spread by ticks are a major restraint to animal productivity besides the morbidity and mortality they cause in both animals and humans. A number of tick species have been well recognized as vectors of lethal pathogens, viz. Crimean-Congo haemorrhagic fever virus, Kyasanur forest disease virus, *Babesiasspp*, *Theileria spp.*, *Rickettsia conorii*, *Anaplasma marginale*, etc. Therefore, there is a greater need to reassess the increased threat posed by these tick vectors and to redesign the tick control programmes.

Therefore, there is an urgent need to develop sensitive and specific diagnostics, *in vitro* and *in vivo* assays for drug resistance monitoring and sustainable control procedures with vaccination to the forefront. Classically, many tests that form the backbone of the modern parasitology laboratory are based on very old and labour-intensive technologies such as microscopy invented by Antonie van Leeuwenhoek in the 15th century. Accordingly, diagnosis of animal parasitic infections has been based on clinical history, symptoms supplemented by microscopic examination for parasites or their developmental stages including eggs, larvae, microfilariae, etc. in faeces, urine, blood or biopsy material. But for both diagnosis and epidemiology, this approach is viewed increasingly as impractical. Identification of chronic carrier or reservoir status of parasitic diseases often poses challenges. This is particularly so when few, if any, parasites or their eggs are available in body fluids or faeces for examination, such as in low intensity. These traditional morphology-based assessments are time-consuming and require specialists whose numbers are insufficient and constantly dwindling. Furthermore, most of the current tests cannot distinguish between the past, latent, acute, and reactivated infections and are not useful for following response to therapy or for prognosis.

Advancement in technology and science and our current knowledge of immunology, molecular biology, microbiology, and biochemistry among other basic science disciplines have defined new directions for diagnostic and vaccine development strategies. The applicability of genetic engineering and proteomics along with other new technologies have played pivotal roles in introducing novel ideas in the ever-changing diagnostic technology trends and vaccinology, and resulted in developing new generation diagnostics, vaccines and improving the quality of the existing ones.

Recent developments in new diagnostic tools opened new avenues for vast improvements in parasite detection. Firstly, a number of newer serology-based assays that are highly specific and sensitive have emerged, such as ELISA, Dot-ELISA, the Falcon assay screening test ELISA (FAST-ELISA), , rapid antigen detection system (RDTS), luciferase immunoprecipitation system (LIPS), etc.. Secondly, molecular-based approaches such as loop-mediated isothermal amplification (LAMP), real-time polymerase chain reaction, and Luminex have shown a high potential for use in parasite diagnosis with increased specificity and sensitivity. Thirdly,

proteomic technology has also been introduced for the discovery of biomarkers using tissues or biological fluids from the infected host.

Some of the limitations of microscopy and serology-based assays have triggered parasitologists the use more sensitive molecular tests such as gene amplification methods that led to development of the novel polymerase chain reaction (PCR) method. Besides the traditional PCR, the nested and multiplexed PCR, the real-time PCR for the detection of several parasitic infections added precision to diagnosis. Adding an automated DNA extraction step is expected to further improve the PCR assays for use in the diagnosis of parasitic diseases. Newer technologies such as loop-mediated isothermal amplification and Luminex-based assays bead-based flow-cytometric assay that allows the detection of various targets simultaneously (<http://www.luminexcorp.com/>) have also emerged as possible new approaches for the diagnosis of parasitic diseases. Molecular approaches based on nucleic acids, offer greater sensitivity and specificity over the existing diagnostic tests. They permit the detection of infections from very low parasitized samples including those from asymptomatic animal samples. Moreover, multiplexed PCR allows for the detection of multiple sequences in the same reaction tube proving useful in the diagnosis of several parasitic infections simultaneously.

A further DNA-based method called “DNA bar-coding” has been proposed as a rapid means of cataloguing species. This initiative is especially attractive with respect to parasites for which morphometrics are difficult or impossible. DNA bar-coding aims to provide an efficient method for species-level identifications and, as such, will contribute powerfully to taxonomic and biodiversity research. As the number of DNA barcode sequences accumulates, however, these data will also provide a unique ‘horizontal’ genomics perspective with broad implications. DNA bar-coding can complement current research in these areas by providing background information that will be helpful in the selection of taxa for further analyses.

With the growing consumer demands for chemical-free food of animal origin coupled with concerns regarding the environment and animal welfare, there is a renewed interest in the development of safe and effective vaccines. A parasitic vaccine *per se*, is unlikely to induce sterile immunity but, more likely, to minimize the impact of infection. With this premise, there is an intense R&D activity for development of many conventional and new generation vaccines. It is encouraging to see that a number of successful vaccines have been produced against acarine tick hosts, protozoan and multi-cellular pathogens and these have a major impact not only on animal health and production but also on human health through increasing safe food supplies and preventing animal-to-human transmission of infectious diseases.

With the wealth of information on parasite genomics, proteomics, and immunology that has been forthcoming lately, the future holds a great promise to apply these modern techniques to understand the basic biology of parasites and address important problems of practical relevance such as epidemiology, drug resistance, vaccines and new generation diagnostics development, delivery and improved control through better management of disease. For solving the vexatious issue of identifying protective genes, gene function annotation studies provide investigators wider options to analyze their genes using many different biological aspects in a single space. Undoubtedly, these functional “omics-based technologies have the potential in developing tools that hold promise in parasite control programmes in the future.

Improvement and utilization of host genetic resistance to gastrointestinal nematodes of economic importance in small ruminants is yet another attractive option for disease control. Although, some isolated efforts of exploring the evidence of genetic resistance to the sheep

abomasal worm, *Haemonchus contortus* within and between breeds are underway, there is a need to intensify research on identification of immunological and genetic markers of resistance and exploring marker-assisted selection/breeding for resistance to parasites.

Before I conclude I like to dwell on the importance of intellectual property (IP) management in our R&D planning, as it is the responsibility of every scientist, university faculty and the students to be aware of these and be sure that they are engaged in research in a manner that is consistent with the fundamental social mission of the country. The IP issues should be understood within the framework of research policies of the Government of India and that of the Indian Council of Agricultural Research/ Department of Agricultural Research & Education. India as a member of the World Trade Organization is obliged to comply with the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS Agreement), which requires since 1 January 1995 that member countries provide for intellectual property rights (IPR) in one form or the other in all fields of technology, including agriculture. ICAR recognizes that research in frontier sciences, such as agro-biotechnology will require intellectual property (IP) protection through patents, plant variety protection and other forms of IPR. Public-private partnerships will play an increasing role in the advancement of agricultural research under the IPR regime. The transfer of IPR enabled agricultural technologies through commercial route will gain greater importance. In response to the changing scenario of technology generation and dissemination, ICAR has developed a policy framework that will guide the management of IP created by its scientists/innovators at its institutions or elsewhere, and that developed with its support. A final word about the patent information, which is a gold mine for R&D planning and understanding the technology trends by researchers and business intelligence for industry. However, making the best use of the information is a challenge as patent databases are large and complex, and are growing very rapidly. Patent mapping is a systematic means to build a navigational knowledge base through the maze of patents to understand and channelize the science to technology flow, or knowledge diffusion from socio-economic development perspective, and this requires greater attention and use by all those players and actors concerned with competitive and quality research in science including scientists, teachers, students and research managers in our public agricultural research system.

Prof. Dr. K.M.L. Pathak
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5: VET TRACKS

5-A: OBITUARY

5-A-1: Renowned Animal Geneticist Dr P G Nair Passes Away

Dr P G Nair, a renowned geneticist, great scientist-cum-teacher, a Founder Fellow of our Academy and the first OSD of NBAGR, Karnal, is no more. He died on May 1, 2015 at his home town in Kerala. May his soul rest in peace.

Dr. Padmanabhan Gopinathan Nair was born in 1926, at Quilon (Kollam) and completed his college education at Madras Christian College (1941-45) and graduated from Madras Veterinary College (1945-50). Dr. Panikkar pursued his Masters and doctorate studies at Ohio State University (OSU), USA. After his doctorate in 1956, he joined as full time faculty at Michigan State University but later resigned for personal reasons and returned to India in 1957.

From 1957 to 1961, he worked at the Indian Veterinary Research Institute before moving on to National Dairy Research Institute (NDRI) as Associate Professor. In 1965, he was appointed Professor and Head, Division of Dairy Husbandry and later Principal, Dairy Science College, NDRI in 1971. In 1975, Dr. Nair took over as Dean, College of Veterinary Science at Kerala



Agricultural University, where he brought about many changes. On the expiry of his five-year contract, Dr. Nair was called back by ICAR, and was appointed as the Head of the Southern Regional Station, NDRI. In 1985, Dr. Nair was appointed as the Director of the newly established National Bureau of Animal Genetic Resources (N.B.A.G.R), Karnal from where he superannuated on 31st July, 1986.

After his retirement, Dr. Nair had been working as Emeritus Scientist at Veterinary College Mannuthy. Subsequently, he also served as Consultant for NDDDB, Anand, Gujarat. In 2002, he was appointed for a five-year term as Member Research Advisory Committee, N.B.A.G.R., Karnal. Dr. Nair settled down in Thrissur and was actively involved in all activities of the Veterinary College, Thrissur. He was the recipient of Lifetime Achievement Award of Indian Dairy Association and was an active member of Indian Dairy Association and was closely associated with the Kerala Chapter of IDA. He is survived by his wife, daughter and son in law.

Stop Press:

5-A-2: Dr. G. Butchaiah, Former Dean at Puducherry Passes Away

A note sent by Dr. S.V.N Rao, <svnrao1953@gmail.com>, Prof. & Head, Dept. of Veterinary & Animal Husbandry Extension Education, Rajiv Gandhi Institute of Veterinary Education and Research (RIVER), Kurumbapet, Puducherry - 605009 (Ph: 0413 2279468 (O); 0413 2290610 (R); 09443007506(M), and forwarded to the NAVS editor by Dr. Rama Kumar V., <drramakumarv@gmail.com>, former Secretary of VCI, informs with profound grief about the sad demise of the former Dean, Dr. G.Butchaiah. He breathed his last at CARE hospital, Hyderabad on 12th June 2015 night. Dr. G.Butchaiah, a microbiologist, was a distinguished founder fellow of NAVS (I). Dr. Venkareddy Duvvuru posted this comment about him in a Social Media site: "A great scientist and a strict disciplinarian Dr Guntur Butchaiah will be

remembered for long the service he rendered to RAGACOVAS, Pondicherry in making it a good academic institution. He will be remembered for bringing the staff of Administrative Staff College of India, Hyderabad (a premier institute privileged to train administrators) to expose our faculty to nuances of teaching and administrative skills. He will be remembered for introducing research component in the then nascent RAGACOVAS from premier research bodies like Department of Biotechnology, ICAR, British Council, U.K., ILRI of FAO. The research and extension aspects largely benefited the farming community of Pondicherry UT. Some of these are extended to different parts of the INDIA.”

May the soul of **Dr. G. Butchiaiah** rest in peace. The contact numbers of his son Kiran are: 09490412906, 09840777951, 09912869622.

5.B: APPOINTMENTS, TRANSFERS, PROMOTIONS AND FELICITATIONS

5.B.1: New Galaxy of officers at GADVASU

Board of Management of Guru Angad Dev Veterinary & Animal Sciences University in its 29th meeting held on 15th Apr, 2015 gave nod to appoint different officials of University. **Dr. S.P.S. Sangha** was appointed as DSW cum Estate Officer for the second term. Currently he is also holding the additional charge of Dean, College of Dairy Sciences & Technology and post of Controller. **Dr. Simrat Sagar Singh** was appointed as Dean Post Graduate Studies. He is an alumni of PAU and has served as Registrar, and Dean, College of Veterinary Science. He is a fellow of Indian Society for veterinary surgery. **Dr. Harpal Singh Sandhu**, was appointed as Dean, College of Veterinary Science, GADVASU, Ludhiana, It is his second term on the same post. He has served as Head, Department of Veterinary Pharmacology and Toxicology. **Dr Sushil Prabhakar**, the current Controller of Examinations was appointed as Registrar. **Dr. Harish Kumar Verma** was appointed as Director of Extension Education. He has been frequently interacting with farmers to provide tips for optimizing production through adequate management of their animals through lectures, animal welfare camps, field days, Radio and TV talks. **Dr. Asha Dhawan**, Dean, College of Fisheries, GADVASU, who is actively involved in infrastructural development, administration, research, teaching and extension programmes, was appointed as Ex-officio member, Board of Management of GADVASU. **Dr. Narinder Singh Sharma**, a renowned academician and researcher was appointed as Controller of Examinations. **Dr. A.K. Poonia**, Principal Scientist of Dairy Microbiology at NDRI, Karnal was selected as Dean, College of Dairy Science & Technology of GADVASU.

5.B.2: Dr. Veer Singh Felicitated

Dr. Veer Singh, Professor and Head, Department of Veterinary Parasitology, College of Veterinary Science & A. H., S. D. A.U., Sardarkrushinagar-385 506, Gujrat, writes to inform that he was awarded the National Marwar Ratna Award – 2014: “*Maharaja Hanwant Singh ji Award*” for Rendering Meritorious Services and Outstanding Contributions in the Field of Science and Technology during ‘557 Jodhpur Foundation Day’ celebration from H.H. Maharaja Gaj Singhji, President, Mehrangarth Museum Trust, on 12th May 2015 at Mehrangarth Fort, Jodhpur, Rajasthan. Dr. Veer Singh.

Dr. Veer Singh, Professor and Head, Department of Veterinary Parasitology, has also been declared as Fellow of National Academy of Biological Sciences (**NABS**) -2014 for Outstanding Contribution in Biological Sciences in India. The award ceremony is scheduled to be held on 22nd August 2015 at University of Mysore, Mysore during the annual meeting coupled with NABS-National Seminar with the theme "*Biological Products for Crop, Animal and Human Health: Problems and Prospects*" to be organized by National Academy of Biological Sciences, Chennai, India

Values, Morals and Ethics

Values

- Values are our fundamental beliefs. They are the principles we use to define that which is right, good and just.
- Values provide guidance to determine the right versus the wrong, the good versus the bad.
- They are our standards.
- When we evaluate anything we compare it to a standard.
- Typical values include: honesty, integrity, compassion, courage, honor, responsibility, patriotism, respect and fairness.
- Ethics are universal.

Morals

- Morals are values which we attribute to a system of beliefs, typically a religious system, but it could be a political system of some other set of beliefs.
- These values get their authority from outside the individual– a higher being or higher authority (e.g. society).
- Right as defined by a higher authority.
- By that definition one could categorize the values listed above (honesty, integrity, compassion...) as "moral values" – values derived from a higher authority.

○

Ethics

- Ethics is about our actions and decisions.
- When one acts in ways that are consistent with our beliefs (whether secular or derived from a moral authority) we characterize that as acting ethically.
- When one's actions are not congruent with our values – our sense of right, good and just – we view that as acting unethically.
- The ethics of our decisions and actions is defined socially, not individually.

6. VIEW POINT

6.1: Small Dairy Farmers not Benefitting from Increased Production

DR. N.R. BHASIN

President Indian Dairy Association

Recently we have been focusing on the need to make Indian dairy farming globally competitive. The various lacunae and impediments in this regard and the possible solutions have been dealt with at length. India's milk production has been an impressive 140 mt this fiscal. The irony however, is that this increased production holds very little significance for dairy farmers themselves. It is unfortunate that it has been decided to reduce milk procurement price by ` 5/- in most parts of the country. This has created a situation where though the cooperatives are getting the benefits of increased production, the farmers remain deprived. The pitfalls of such a faulty policy could have grave repercussions on our dairy farmers.

Let us briefly examine the status of Indian dairying today. Milk consumption is growing at around 6 per cent, outpacing supply as production is growing at around 4 to 5 per cent only.

A large share of the production in India still does not conform to domestic and global food safety standards. This is due to adulteration, lack of adequate infrastructure and inadequate awareness. India contributes about 17 per cent of the global milk production but the share in global exports is a low 0.4 per cent only.

Further, the country lacks trained manpower and quick service delivery for providing adequate extension and veterinary services. Artificial Insemination (AI) service covers only 25-30 per cent of the dairy animals. The government is supporting the industry through various schemes and programs like National Dairy Plan (NDP) which aims to increase productivity and access of milk producers to the organized dairy market with an investment of over 500 crores annually.

The cost of milk production involves cost of feed and fodder, family labour, healthcare and farm management. Indian milk producers are competitive in global space with low cost of milk production, primarily due to cheap labour. Inclusive measures for enhancing fodder and milk productivity will help in further sustaining low cost of production.

The current deficit level of green fodder and concentrates is up to the tune of 34 per cent. Further, there is a supply demand gap for quality forage seeds as well. The government has launched "Accelerated Fodder Development Program" and a sub-mission "Feed and Fodder Development" for undertaking R&D towards enhancing fodder productivity and availability along with multi-cropping systems and adopting improved farming technologies is being followed.

Models like large scale dairy farms with ownership of cattle remaining with the farmers, medium scale dairy farms, community dairy farms with 'cow hostel' models are some innovations which may integrate the small and medium dairy farmers. Public-Private Partnership (PPP) models need to be developed for the areas which are yet to be sufficiently attractive for private investments.

As indicated above the cooperatives which are not in the hands of milk producers do not ensure that the advantage of cooperative societies gets to the milk producers. In such a situation on-farm technical training, institutional arrangements such as Farmer Producer Companies (FPOs) should be encouraged to increase bargaining power of the farmers. Under NDP, village level infrastructure will be created for milk procurement along with testing equipments for further strengthening the supply chain.

Regional Feed-Fodder banks need to be encouraged for milk production in summer months when most Indian cattle and buffaloes go dry.

Further, institutional credit in the dairy production system may be intensified as dairy is one of the remunerative activities where cash flows are fairly positive for farmers. The “Pradhan Mantri Jan Dhan Yojana” can play a pivotal role in achieving this target.

Private sector participation in extension services should be aligned with the public schemes and market-led practices should be encouraged to increase resilience in the smallholder dairy farming ecosystem. Along with the above mentioned essential parameters, deliberate efforts are required for establishing PPP for regional animal breeding centres for supply of climate resilient and quality animals for a particular agro-climatic zone and feed-fodder systems available locally. The government should further focus on promoting vigorous animal husbandry activities by bringing it under the CSR1 ambit.

It cannot be emphasized enough that a good procurement price is essential for the socio-economic development of dairy farmers. Surprisingly this year the payment to milk producers in most areas of the country except Gujarat has been reduced by Rs. 5/- per litre. This is going to adversely impact the milk producers. Let us examine the fallout of such a decision.

As we know the Operation Flood (OF) initiated in 1970, ushered the White Revolution in India. During the 50's and 60's milk production in the country was increasing at the dismal rate of 1.2%. However, with the successful implementation of Operation Flood (OF) milk production rose to 4.3%, gradually propelling India towards becoming the largest milk producing nation in the world. OF established a national milk grid where every year over 13 million tones of milk are procured.

However, economic reforms in the wake of globalization saw private dairy companies entering the fray. This had a detrimental effect on the institution of cooperatives. Today these operators are selling milk at ` 40-45 per litre. But the producers are paid merely ` 20-22 per litre. This is causing immense hardships to the producers and they are not able to provide quality fodder to their animals. As a result the volume of milk production in the country is impacted. This has also perhaps sounded the death knell of the advantages of the White Revolution. At a time when we are talking of bringing about a second White Revolution the decision to reduce procurement price is questionable. It is a matter of grave concern that the smallholder farmers who toil tirelessly to produce milk are given the short shrift by the private dairies and are not benefited even by the cooperatives.

Further, the road ahead for the small and marginal dairy farmers is quite challenging and innovative measures in farming models, technology and value addition are required for adapting to evolving scenarios pertaining to scalability and quality.

While creating an efficient supply chain network through investment in infrastructure will take its own time, we can enhance our global competitiveness by sustaining the cost of milk production, augmenting R&D towards rise in milk and fodder productivity, improving quality and adopting innovative farming models. Linking the production system to the consumer demand, better quality and processed products require a robust value chain, strong research and technology infusion for productivity enhancement and risk mitigation. These strengths can be further leveraged with a balanced growth of crop-livestock production system making globally competitive smallholder dairy farming a reality. **(Dr. N.R. Bhasin's Contact: email: bhasinnr@rediffmail.com)**

6.2: Scope of Homoeopathy in Safe Food: From Farm to Fork

Dr Shivang Swaminarayan

Co-founder, Homoeopathy Knowledge Centre

World Health Day was celebrated on 7 April 2015, with WHO highlighting the challenges and opportunities associated with food safety under the slogan **“From farm to plate, make food safe.”** As our food supply becomes increasingly globalized, the need to strengthen food safety systems in and between all States in India & countries is becoming more and more evident. Taking example of milk & milk products, we know that milk we drink is loaded with antibiotic residue, fertilizer residue & even at times pesticide residues. As a country we are yet to frame & strictly implement standards for minimum drug residue, somatic cell count in our milk bringing it to the parity of International Standards to ensure better health of our population.

Homoeopathy offers answer to the need for health of food producing animals that does not pose problem of drug residue. That is the reason why European Union vide its regulation 1999/1804 has allowed homoeopathic medicine & phyto medicines in organic farming & treatment of food producing animals including dairy animals. So does Commerce Ministry, Govt of India (2004) has recommended use of homoeopathy in organic agriculture & animal health vide National Programme For Organic Produce (Section 3.3.7 Veterinary Medicine; Pg. 46-48). While various State Governments are in the process of introducing Organic Farming Policy in their respective States, I wish to share some facts for your ready reference. You may recommend Ministry in your State to include homoeopathic medicine for animal health, particularly food producing animals:

Interest in homoeopathy for animal health, especially for food producing animals, is increasing due to scope & efficacy of homoeopathic molecules in organic agriculture. Homoeopathy does not pose problem of drug residue unlike modern medicine. European Union vide its regulation no. 1999/1804 recommends use of homoeopathy & phyto medicine in food producing animals in organic agriculture. The Ministry of Commerce, Government of India (2004) has also recommended the use of homoeopathy in organic agriculture & animal health.

- Indian System of medicine & Homoeopathy Policy (2002), Govt of India recommends use of Ayurvedic & Homoeopathic medicine in Animal health.
- India has pool of largest Institutional research of the world in Efficacy of Homoeopathic Medicine in Animals by none other than Indian Veterinary Research Institute, Bareilly (U.P.)
- Based on encouraging research outcomes of Homoeopathy, VCI under recommendation of IVRI, introduced Alternative Medicine non credit course in B.V.Sc. curriculum to expose the students to homoeopathy & other alternate systems of medicine.
- Central Council of Research In Homoeopathy, Govt of India is encouraging research under Extra Mural Research Scheme for Animal health of economic importance in food producing animals.
- Organic Dairy farms in country are using homoeopathic medicines for treating dairy animals in India & Europe. In countries such as Germany, Spain and Sweden farmers use homeopathic remedies to treat their animals much more frequently. Surveys have shown that as many as 72.3 percent of German organic farmers use homeopathic medicinal products to treat their animals, A Swedish survey showed that 14 percent of all farmers use homeopathy to treat their animals. A survey of 41 dairy farmers showed that the main reason why farmers choose homeopathy is to reduce the use of antibiotics. Results also

showed a reduction of the use of antibiotics from 30 to 10 percent. In addition farmers mention reduction of costs, and harmless and effective treatment as reasons why they opt for homeopathy. Overall results showed an improvement of 76 percent. Farmers also point out that homeopathy can be used to treat diseases where no conventional treatment option exists.

- Education and training exists in several countries, ranging from smaller weekend courses for pet owners and farmers, to fully fledged courses for homeopaths and veterinarians wishing to treat animals on a professional level. Full courses exist in Finland, Germany, Norway, Sweden, Switzerland and the United Kingdom, and the establishment of similar courses is in its planning phases in Israel as well India.
- Homoeopathy is also being used in crop agriculture by Organic farmers in India & abroad. Universities from A.P., Kerala, U.P., Maharashtra & ICAR institutes some of European Institutes have done research in effects of Homoeopathic drug in crop agriculture demonstrating crop boosting & crop protecting properties.

Based on research, applied scope, collective experience of various countries including India, there is a need to create ecosystem for promoting, propagating & integrating homoeopathy in animal health, agriculture & organic farming through appropriate policies & programmes of the Government. (**Dr Shivang Swaminarayan** can be contacted for more details and presentations on the subject. Email: shiv.on.mobile@gmail.com; Phone: +91 - 98982 00557; Address: 402 Surya Mandir, Near Sambhav Press, Bodakdev, Ahmedabad-380015, Gujarat)

Controversies in Animal Welfare

Gail Golab, PhD, DVM, Dipl. ACAW, Director of Animal Welfare for the American Veterinary Medical Association, said there are three areas of controversy:

1. Different people evaluate animal welfare differently. “One group thinks about what is going on with the body such as health, reproduction and growth,” she explains. “A second group focuses on the mind and how animals feel, and their pain, suffering, contentment and pleasure.” The third equates welfare with natural and how close does the animal find itself to if it was “free-living” in nature. Golab says we are looking at intersection of these three. “The reality is that we stray from the center where these three intersect, and we get disconnects,” Golab says. “Physical” people are not as interested in the “natural” or “feelings” aspects of the others. “People gravitate to what has more return on investment for them.”
2. Controversy arises when we don’t proactively recognize and address public concerns. Three main concerns, says Golab, are animals in boxes or restraint, things “cut off” or modified without pain control, and injury/death of animals. “Consumers care about what, why, when and how,” she says.
3. When consumer expectations don’t match reality or perceptions of industry performance. “Animal welfare has two components,” Golab says. “‘What is’ which is what we are actually assessing, and ‘what ought to be’, which is social perspective and ethical concerns.” Golab says what determines social ethic is culture, traditions, science and economics. “People decide what they can and can’t live with.”

7. NAVS NEWS

7.1: Recommendations of the 13th NAVS Convocation–cum–Convention on ‘Strategies for Enhancing Rural Economy through Livestock Development

The 13th NAVS Convocation–cum–Convention on ‘Strategies for Enhancing Rural Economy Through Livestock Development was jointly organized by Chhattisgarh Kamdhenu Vishwavidyalaya, Durg and National Academy of Veterinary Sciences, New Delhi on February 28, 2015 at College of Veterinary Science & A.H., Anjora, Durg, Chhattisgarh. The Conference was inaugurated by the Chief guest Shri. Brijmohan Agrawal, Hon’ble Minister for Water Resources, Ayacut, Agriculture, Animal Husbandry, Fisheries, Endowment and Religious Department, Govt. of Chhattisgarh, at the function presided over by Smt. Ramsheela Sahu, Hon’ble minister Women and Child Development and social Welfare Department, Govt. of Chhattisgarh. Shri Ajay Singh IAS, Additional Chief Secretary and Agriculture Production Commissioner, Govt. of Chhattisgarh, and Dr. Manmohan Singh IAS, Principal Secretary Animal Husbandry, Dairy and Fisheries, Govt. of AP and Vice Chancellor, SVVU, Tirupati were the special guests, under the patronage of Prof. U.K. Mishra, Hon’ble Vice Chancellor, CGKV, Durg and Prof. K.M.L. Pathak, President NAVS-cum-DDG (AS) ICAR, New Delhi.



The following three presentations were made at the Technical Session:

1. Drift variant of low pathogenic Avian Influenza viruses: Indian Scenario - **Dr. J.L. Vegad**, Former Dean, Veterinary College, Jabalpur.
2. New Castle disease virus: A promising vaccine vector for human and animal pathogens - **Dr. Siba K. Samal**, University of Maryland, U.S.A.
3. Indian Livestock Scenario and its strength for livelihood security - **Dr. S.S. Honnappagol**, Animal Husbandry Commissioner, Government of India, New Delhi.



The recommendations of the technical deliberations are as under:

a. The low pathogenic avian influenza viruses (LPAI) have a tendency to evolve resulting in the emergence of mutants, known as drift variants. These variants have high virulence and variable antigenicity. Control of avian influenza viruses and the drift variants through vaccination is a great challenge because of the rapid evolution of LPAI due to the pressure of vaccination immunity. Therefore periodic evaluation and updating of the vaccination strain is required to provide sufficient protection to birds against the drift variants of LPAI.

b. New Castle Disease virus (NDV) infects via the intranasal route and therefore, induces both local IgA and systemic IgG antibody response. NDV can accommodate foreign genes (at least 4.3 kb) with good degree of stability. As an enveloped virus it could incorporate foreign envelope protein in its envelope. NDV replicates in the cytoplasm and does not integrate into host cell DNA. There are at least nine avian paramyxovirus serotypes that can be used as vaccine vectors. Therefore, NDV is a promising vaccine vector for not only animal pathogens but also for human pathogens for which vaccines are not currently available.

c. Livestock is the natural asset and considered as Walking Bank supporting farmers to overcome the financial distress on account of crop failures and natural disasters ensuring livelihood options. The small, marginal holders and landless farmers together have over 75% of country's livestock resources. Any progress and growth in this sector would bring prosperity and reduce the poverty among the weaker sections. Thus there exists a rural livelihood security in this sector and there is a need for innovative strategic interventions like community farming, integrated crop - livestock systems, convergence of different schemes and institutional mandates and dissemination of affordable information among the stake holders.

7.2: NAVS Holds its General Body Meeting at Durg, Chhattisgarh

A general body meeting of the Academy was held on February 28, 2015 at College of Veterinary Science & A.H., Anjora, Durg, Chhattisgarh, at which the following important decisions were taken:

1. The house agreed that Past President and Past Secretary General may be requested to attend GC meetings as “Special Invitee”.
2. It was decided to hold the XIV NAVS (I) Convocation at PDFMD Mukteswar in the first week of November 2015 subject to the discussion in next GC meeting.
3. After discussing the issue of non-attendance of some of the GC Members in the past meetings of the Governing Council, it was agreed that the GC Members abstaining from the last two consecutive meetings may be dropped from the Governing Council. Secretary General will write a letter in this regard to the concerned GC Member.



The following Fellows of the Academy were present at the General Body Meeting:

- | | |
|--|-------------------------|
| 1. Dr. K. M. L. Pathak, President | 14. Dr. B. Pattnaik |
| 2. Maj Gen Shri Kant Sharma,
Vice President | 15. Dr. Ravindra Sharma |
| 3. Dr. Rishendra Verma,
Secretary General | 16. Dr. D. Thyagrajan |
| 4. Dr. Lal Krishna, Treasurer | 17. Dr. Siba K. Samal |
| 5. Dr. R. N. Kohli, Editor | 18. Dr. Umesh K. Mishra |
| 6. Dr. P. N. Khanna | 19. Dr. A. Karihaloo |
| 7. Col. R. P. Garg | 20. Dr. Satish K Garg |
| 8. Dr. Praveen Malik | 21. Dr. V. P. Singh |
| 9. Dr. S. K. Gupta | 22. Dr. B. N. Tripathi |
| 10. Dr. J. S. Bhatia | 23. Dr. N. N. Pathak |
| 11. Dr. N. K. Mahajan | 24. Dr. N. H. Kelawala |
| 12. Dr. Srinivasan Ramanathan | 25. Dr. M.M. S. Zama |
| 13. Dr. J. L. Vegad | |

8. NATIONAL & INTERNATIONAL VETERINARY NEWS

8.1: GADVASU is Asia's First University to Sign MOU with University of Sydney, Australia



Guru Angad Dev Veterinary & Animal Sciences University (GADVASU), Ludhiana, today signed Memorandum of Understanding MoU with the University of Sydney, Australia, for collaborative research and to facilitate exchange of faculty and students. **Dr. AS Nanda**, Vice-Chancellor, GADVASU signed MoU. University of Sydney was represented by **Dr Navneet Dhand**, Sub Dean Research Development in the Faculty of Veterinary Science, University of Sydney, Australia. Dr. AS Nanda congratulated scientists from both the institutions and hoped that this MOU will be beneficial for faculty and students of both the Universities and will result in productive research in veterinary and animal sciences. Dr. Dhand discussed research priorities of the University of Sydney and its keen desire to work with scientists from India. He described it as a beginning of a long term relationship between the two premier institutions for developing new tools and techniques for improving animal and public health.

8.2: GADVASU Scientist Delivers Key Note Address in Pakistan Symposium

An International Symposium on Dairy Animal Reproduction (ISDAR) was organized by University of Veterinary and Animal Sciences, Lahore, Pakistan in collaboration with Society for Animal Reproduction Pakistan with theme of 'New knowledge-New techniques'. Scientists from different countries including USA, Canada, Brazil, Turkey, India etc participated in the symposium and discussed the emerging reproductive disorders in dairy animals in the region. **Dr Parkash Singh Brar**, Prof-cum-Head, Department of Veterinary Gynaecology and Obstetrics, Guru Angad Dev Veterinary & Animal Sciences University, delivered key note address on 'Recent advances in understanding and approaches to reproductive disorders in dairy animals'. Dr Parkash Singh Brar, also chaired a technical session where students from Turkey, Pakistan etc presented their work on goats, and male and female animals.

Dr V K Gandotra and Dr S P S Ghuman of the same department also presented their work on effect of heat stress on buffalo reproduction and oestrus synchronization protocols applied under field conditions to improve animal reproduction.

The symposium was of high importance to Indian context as both the countries practice similar management practices in terms of nutrition, heat stress management etc for animals. More over some of dairy animal breeds reared in India such as Nilli Ravi Buffalo and Sahiwal cow have their origin from Pakistan. In a milk production competition held during symposium a Buffalo yielded 45 Lts milk and a Sahiwal cow yielded 39 Kg in 36 hours. The Lahore Veterinary College was established in 1882 under British rule and used to cater whole Northern India before division. Many Alma-mater of the college have served on high technical and administrative positions in India.

8.3: World Veterinary Association: Free access in honor of World Veterinary Day 2015

In honor of World Veterinary Day 2015 Taylor & Francis have made a collection of research on vector-borne and zoonotic diseases free to read online. Articles from their veterinary science and related journals explore a range of areas including Q Fever, Malaria, Avian Influenza, Lyme Disease and much more. Explore their collection here: <http://bit.ly/1blnTM3>

8.4: India orders slaughter of more than 250,000 poultry on farms after outbreak of deadly bird flu strain

According to Mailonline dated 17 Apr 2015, thousands of chickens and other poultry have been culled following the outbreak of a highly contagious strain of bird flu in India. Officials ordered 250,000 birds to be slaughtered in Telangana after cases of the H5N1 virus were identified, which can be deadly in humans. The virus caused the deaths of nearly 400 people and hundreds of millions of poultry after it spread from Asia into Europe and Africa in 2005-2006. (Since then, India has regularly reported cases of highly pathogenic avian influenza in wild and domestic birds.)

Veterinary staff from the local government's animal husbandry department carried out the cull - which included destroying hundreds of thousands of infected eggs - at Thorur village in the Ranga Reddy district. Birds present in poultry farms were slaughtered while the eggs, including those stored in warehouses, were dumped in a pit. Bird feed stock was burned and the sites were all thoroughly disinfected in a bid to stop the virus from spreading. India has culled 6.4 million birds due to bird flu since 2006. Experts point out that cross-infection to humans is still relatively rare and usually occurs where people have been in close contact with infected birds. But fears remain the avian flu could combine with a human strain to produce a mutation that is more dangerous and difficult to control.

In February, three people were tested for bird flu and 10,000 chickens slaughtered in Britain's first outbreak of the H7N7 strain in seven years. There have been several outbreaks of the H7N7 flu in China and 18 months ago it was found in Italy. During the Italian outbreak in August 2013, three poultry workers became infected with the virus, developing conjunctivitis. More than 1 million chickens and other poultry were culled during the Italian crisis.

8.5: Revision of Pension of Pre-2006 Pensioners: NPA @ 25%

As per a recent GOI OM No. 38/31/11-P&PW (A) (Vol. IV) dated Feb.18, 2015 from Department of Pension & Pensioners' Welfare, Ministry of Personnel, Public Grievances & Pensions, Government of India, New Delhi item no 4, medical officers have been given benefit of NPA @ 25% and it would be required to be added to the minimum of the pay in the revised pay band plus grade pay (or minimum of pay in the revised pay scale in the case of HAG and above) as on 1.1.2006 corresponding to the pre-revised pay scale from which they retired, in cases where pension/family pension is to be stepped up to 50%/30% of the minimum pay respectively. This notification has also been adopted by the Indian Council of Agricultural Research (ICAR) *vide* F. No. GAC-21-52/2014-CDN dated.4th March, 2015 for their veterinary cadre. The details may be downloaded from the sites:

<http://indianmilitaryveterans.blogspot.in/2015/02/inclusion-of-non-practicing-allowance.html>
and www.icar.org.in/files/npa-16-03-2015.pdf

Thus, pre-2006 pensioners of veterinary (Animal & Husbandry Departments and State Universities), getting NPA on retirement may look into the matter and derive benefit by getting

the above notification adopted from their concerned quarters for revision of their pension pay including NPA as provided in the GOI notification .

8.6: Indian Dairy Association Celebrates World Milk Day

Indian Dairy Association organized a function to celebrate the WORLD MILK DAY on 1st June 2015. This was the 4th time in succession that IDA along with its zones and chapters celebrated the World Milk Day. The meeting was attended by over 30 participants from various spheres of the dairy sector. It was great to share thoughts with the luminaries of the Dairy Profession in India. President of IDA, Dr. N.R. Bhasin, drew attention to the benefits of consuming milk and milk products and debunked several myths about milk consumption. He informed that in Second International Conference on Nutrition, it was emphasized that milk and milk products have a potential to address the nutritional security across the world particularly for the vegetarians. He stressed that the Government of India should incorporate distribution of milk to the school going children as part of the Mid-day meal scheme. It would impact the country in two ways.



Dr. Rajorhia, Vice President, IDA informed that according to a survey carried out by the Bihar government, the cost of milk production in the hinterland areas was still very low and India stood amongst the community of nations that produced milk at the lowest cost. While Mr. Arun Patil, Chairman, IDA (West Zone) focused upon the quality and quantity of milk production in India, Dr. R.S. Khanna emphasized on the need for a dairy dialogue to address the problems of milk producers. Dr. P. Bandyopadhyay of NDDB recommended the formation of a Working Committee to look into the amendments required in the FSSAI Act which would ensure food safety for all. Dr. Raja Rathinam informed that due to surplus milk production, certain

cooperatives were not accepting milk from producers. There is an urgent need for a national policy to ensure that all the milk should be accepted from the producers.

Other speakers who focused on several issues confronting the dairy industry, dairy farmers and the consumers of milk included Shri. Animesh Banerjee, Dr. R.M. Acharya, Dr. R.N. Kohli, Dr. A.K. Bandyopadhyay, Dr. Kiran Singh, Dr. J.V. Parekh, Shri K.L. Dua, Shri K.L. Arora, Shri I.K. Narang, Dr. B.S. Beniwal amongst others.

8.7: Antibiotic use deserves serious conversation, not scare tactics

Dr. Robin Ganzert, PhD, President and CEO of American Humane Association, has reacted strongly to the recent release of the Food and Drug Administration's report on antibiotic sales that brought a round of calls from certain advocacy groups to ban the use of antibiotics in animal agriculture. These advocates remind him of another crowd: the anti-vaccination movement. Both the groups pushing for an antibiotic-free animal agriculture and the "anti-vaxxers" ignore established science on their respective issues in a way that leads to diminished human and animal welfare. We certainly should have a debate about the judicious use of antibiotics in agriculture, but jumping to an outright ban defies science and common sense, will cause more animal suffering, and may have adverse effects on public health.

While those pushing for an outright ban are on the fringe, concerns about antibiotic-resistant bacteria in agriculture are starting to hit the mainstream. In American Humane Association's 2014 Humane Heartland Farm Animal Welfare Survey, more than half of the respondents indicated that they seek out food labeled "Antibiotic Free," second only behind "Humanely Raised." Opponents of antibiotics frequently point to Centers for Disease Control and Prevention estimates that at least two million Americans become infected with bacteria that are resistant to antibiotics every year. Reports indicate that the most resistant infections reside in human hospital settings. However, there is no evidence that antibiotics used in animal agriculture have decreased the effectiveness of antibiotics in humans. According to Dr. Stephanie Doores of Pennsylvania State University, "People would be more likely to die from a bee sting than for their antibiotic treatment to fail because of macrolide-resistant bacteria in meat or poultry." A look across the world to Denmark is also instructive. Despite a complete ban on antibiotic use for growth promotion instituted in 2000, there is very little evidence that it led to any positive impacts on human health or a decline in antibiotic resistant bacteria. In fact, it has resulted in a significant increase in the therapeutic use of antibiotics in animals, due to animals getting sick. Science – and common sense – tell us that antibiotics can and do help improve well-being, decrease mortality rates of farm animals, and prevent unnecessary suffering. Just as they do when given to a child with strep throat, antibiotics relieve the pain and distress of sick animals while helping them to recover. One of the Five Freedoms upon which the American Humane Certified program is based is the freedom "from pain, injury and disease." An outright ban would be inhumane to sick animals, and would violate one of the Five Freedoms that serves as the internationally accepted social contract with animals.

Additionally, what is not often discussed is that use of antibiotics in farm animals provides for a safer food supply, and that the FDA has long required withdrawal periods for such use. As noted by Dr. Christine Hoang, assistant director of the American Veterinary Medical Association, in her 2010 testimony to the House Committee on Energy and Commerce, Subcommittee on Health: "For food animals, drugs additionally contribute to the public health by mitigating disease and thereby reducing the numbers of bacteria entering the food supply. Studies show that

a reduction in the incidence of food animal illness will reduce bacterial contamination on meat, thereby reducing the risk of human illness.” Because it is an issue of concern for the public, antibiotic use in agriculture demands a healthy and robust discussion. But veterinarians, public health professionals and scientists should be determining what the appropriate use of antibiotics is. And such a discussion needs to include outcomes for the sick animal, as it’s simply not humane to leave an animal to suffer needlessly. Recent moves by Chick-fil-A and McDonald’s demonstrate that the issue is becoming more urgent. Let’s set aside the scare tactics and pressure campaigns and have a real, honest conversation about safe and proper antibiotic use that’s driven by science. Agriculture, researchers and humane organizations must work together to educate the public and food companies about proper antibiotic use, or else the dialogue will be led by misinformation. In working together, we can develop policies that improve animal health and welfare, safeguard our abundant food supply and protect public health. Better science is needed to advance a better understanding of human and animal health, and define what it is to be humane. Learn more at AmericanHumane.org.

<http://www.bovinevetonline.com/community/contributors/antibiotic-use-deserves-serious-conversation-not-scare-tactics>.

(Source: <http://www.bovinevetonline.com/community/contributors/antibiotic-use-deserves-serious-conversation-not-scare-tactics>)

8.8: World Veterinary Day 2015 Award of the World Veterinary Association

After in-depth selection process, the WVA and OIE selected the College of Veterinarians of Costa Rica, together with the Costa Rican National Animal Health Service, as the winner of the WVD 2015 award for their comprehensive awareness campaign on the prevention of equine encephalitis and West Nile fever. Read more: <http://www.worldvet.org/news.php?item=229>

8.9: Meritorious Award of the OIE - WVA Councillor, Dr Abdul Rahman

On 24th May 2015, during the Opening Ceremony of the 83rd Session of the OIE World Assembly in Paris, France, the OIE President presented the Meritorious Award of the OIE to Dr. Abdul Rahman.



Meritorious award of the OIE is granted annually by the OIE to personalities who have distinguished themselves as a way to recognize internationally their outstanding technical, scientific and administrative contributions to the field of veterinary science, control of animal disease, animal welfare and/or to veterinary public health. Dr. Abdul Rahman, WVA Councillor for International Organization, received the OIE Meritorious Award for his contribution to the veterinary profession through his work on animal welfare, zoonosis with special reference to

control of Rabies and for his work on veterinary education. Dr. Abdul Rahman is also the President of Commonwealth Veterinary Association, President of Association for Prevention and Control of Rabies in India (APCRI) and Chairman of OIE Animal Welfare Working Group and former Dean of Bangalore Veterinary College, Bangalore India has been awarded the 2015 World Organisation for Animal Health. (Source: WVA News - Mozilla Firefox)

8.10: NEWS from LUVAS, Hisar

8.10.1: World veterinary day celebrated at LUVAS



Lala Lajpat Rai University of Veterinary and Animal Sciences (LUVAS), Hisar celebrated the “World Veterinary Day” in its campus on 25th April by organizing several activities including lectures, poster making, rangoli, slogan and poem writing, delivering awareness lectures in different schools of Hisar. A horse riding show was also organized on this occasion. A Vet March for

students and teachers was initiated by the Vice-Chancellor, Maj Gen (Dr.) Shri Kant, from Arawali Hostel at 6:15 in the morning. In this march, large number of students and teachers participated. On this occasion the VC extended the best wishes for veterinary profession fraternity. Scientists, Dr. NK Mahajan and Dr. Ashok Kumar delivered lectures regarding the importance of veterinary profession and zoonotic vector borne diseases to the students of O P Jindal Modern School, St. Kabir’s School and Siddhartha International School in the city. Dr. Baldev Gulati, a senior scientist from National Research Center on Equines (NRCE), Hisar, delivered a lecture on “vector borne diseases with zoonotic potential” to the faculty and students of LUVAS.

8.10.2: Facility for Quality Assurance of Foods of Animal Origin Developed

Department of Veterinary Public Health & Epidemiology, LUVAS has established facility for quality assurance of foods of animal origin under Rashtriya Krishi Vikas Yojna (RKVY). Maj Gen (Dr) Shri Kant VC, LUVAS visited this laboratory recently. In this newly developed food safety laboratory, samples derived from animals such as milk, meat and their products will be tested for detection of important food borne pathogens as well as antibiotic residues in them. In this laboratory, facilities for pathogen detection by PCR and antibiotic residues by HPLC techniques have been established. This facility will help to increase the income of producers by selecting highly priced quality products.

8.10.3: Facility for Quality Assurance of Foods of Animal Origin Developed

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techniques have been established. This facility will help to increase the income of producers by selecting highly priced quality products.

8.10.4: Training on “Diagnostic Vet Ultrasonography

Training on “Diagnostic Vet Ultrasonography” for Remount Veterinary Corps (RVC) was held from April 13 to 22, 2015. Dr. R.K. Chandolia was the course Director of this training. In this training four RVC officers viz. Major Raghav Sharma from EBS, Hisar, Capt Mukesh Sihag from EBS, Babugarh, Capt Rishi Sharma from RTS & D, Saharanpur and Capt Jaipaul Chauhan from RTS & D, Hempur participated. The officers were given training on equine, canine and bovine for 10 days.

8.10.5: LUVAS to establish Regional Referral Veterinary Diagnostic and Extension Centers

The Board of Management of LUVAS in its recently held meeting has decided to establish two RVDEC of LUVAS at Uchani (Karnal) and Mahendergarh. These Centers will provide specialized services to the sick and lame animals viz Surgical, Clinical, Gynaecological, diseases diagnosis and extension services. These regional Centers will also provide animal breeding and management practices to facilitate enhancement of productivity of livestock, thereby, uplifting the socio-economic status of poor farmers of the state

STOP PRESS:

Outbreak Response Training on Anthrax at Bangaluru

Prof. (Dr.) M.P. Yadav, Former President, National Academy of Veterinary Sciences, while speaking as chief guest during the Valedictory Function of the four day training organized by National Institute of Veterinary Epidemiology and Disease Informatics (NIVEDI) Bangaluru in collaboration with CDC, Atlanta USA and Manipal University (India) on “Outbreak Response Training on Anthrax” emphasized the need and importance of the knowledge of precise epidemiology (molecular and landscape epidemiology; Eco-biology and immuno biology) of the infectious disease agent, which are largely determined by interaction between host, parasite and environment. He also underlined the significance of the present training dealing with outbreak response in anthrax as still India experiences sporadic cases of this disease in few states including the southern Peninsula. Since a potent vaccine is available against anthrax for use in animals, strategic vaccination program for immunization in livestock can reduce the incidence of this zoonotic disease both in livestock and human population, and may pave the way for ultimate eradication of the disease. Prof. Yadav also opined that a well designed program need to be undertaken in Peninsular India in collaboration with ICAR; DAHD&F, GOI; NIVEDI; State Departments of A.H & Dairying; and ministry of Health GOI, for eradication of deadly anthrax disease from India.

Prof. M.P. Yadav, who is also the Secretary of National Academy of Agricultural Sciences (NAAS), also delivered a plenary lecture on “Livestock Production System in India: Challenges & Way Forward” during the 3rd UP Agricultural Science Congress held at SHIAT, Deemed University, Allahabad, on June 14, 2015. Dr. Yadav highlighted the importance and significant contribution of Animal Husbandry sector in Indian economy and agriculture.

9. SCIENCE, HEALTH & SOCIETY

9.1: Women Empowerment through Animal Husbandry

According to a Press Note dated 29th March 2015, a mahila sammelan on “Women Empowerment through Animal Husbandary” was organized at LUVAS, Hisar, in which Ch. Birender Singh, Central Minister for Rural Development and Panchayati Raj was the Chief Guest. In this programme more than 800 rural women from different parts of Haryana participated. In addition some of the progressive ladies working in area of livestock entrepreneurship were also present.



The Chief Guest lauded the important role and active participation of rural women in field of animal husbandry. He further emphasized that the society has to change the mentality towards women. Ch. Birender Singh released a book written by LUVAS faculty and he also started an Android mobile phone app to help the animal farmers. He informed that Govt. of India had established a fund of Rs. 2000 Crores for providing loans to weaker section of society and appealed to the banks to come and support women by providing financial support to their small projects. He also congratulated the Vice-Chancellor of LUVAS for such a social initiative.

On this occasion, Maj Gen (Dr.) Shri Kant, VC, LUVAS said that Rural women can increase their profit manifolds if they adopt scientific methods and capture the big market of Delhi to sell their milk. Haryana State can make an increase of Rs. 1800 Crores in its profit if it increases only half a litre of milk yield per animal.

9.2: Two Million Die Every Year Due to Unsafe Food

Unsafe food is linked to the deaths of an estimated 2 million people annually – including the very old and the very young. This is why WHO highlighted #SafeFood, from farm to plate (and everywhere in between) on World Health Day - 7 April 2015. **World Health Day 2015:**

Some Food Safety Facts:

1. Intestinal infections caused by viruses, bacteria and protozoa that enter the body by ingestion of contaminated food can even cause cancer.
2. The enteric or intestinal disease agents responsible for most deaths were Salmonella Typhi (52,000 deaths), Enteropathogenic E. coli (37,000) and Norovirus (35,000).
3. African region recorded the highest disease burden for Enteric food borne disease, followed by South-East Asia.
4. Over 40% people suffering from Enteric diseases caused by contaminated food were children aged under 5 years.

9.3: World Animal Protection India Monthly Newsletter

In their first Newsletter released in April 2015, the World Animal Protection India has thanked the professionals for creating real and lasting change for animals locally and around the world and shared some of the inspiring success stories. Here's an example about **promoting animal welfare at Delhi Science Fair**. Attending the event, organised by the Education Department of South Delhi Municipal Corporation (SDMC), they raised awareness among school principals, teachers and students, on the importance of showing compassion, respect and care towards animals. Over 50 people registered an interest, during the fair, in the specially designed programme for primary and secondary school children – First Concepts in Animal Welfare (FCAW). FCAW guides teachers on educating their students on the importance of animal welfare, and how fundamental the protection of animals is for animals, people and communities. Their long term partnership with the education department, helped to raise awareness, share experience, and promote the importance of animal welfare at the Delhi Science Fair to promote artistic, creative and innovative skills, related to science, among its attendees. During the event they hosted interactive activities at their stand, to encourage an interest in animal welfare, and presented lesson plans on subjects from animal needs to responsible pet ownership and understanding how dogs communicate.

9.4: PAU ranked No. 1 Agricultural University

According to a recent countrywide survey carried out by Indian citation Index (ICI), New Delhi, the Punjab Agricultural University (PAU) has secured rank 1 farm varsity in the country based on its quality research publications. The quality has been determined based on the parameters such as articles published, their citation by other researchers and the citation index. As per the ICI database as on September 2014, PAU published 4,063 articles, 2,063 articles were used for citation and number of cited articles were 962. PAU VC Dr Baldev Singh Dhillon, while congratulating the faculty for this meritorious distinction, said, "The University holds a trailblazing place among all the agricultural universities in the country due to its high standards of agricultural research, education and technology transfer." (Source: PAU Australia's page on Face Book)

9.5: Amritsar woman gives birth to a ‘plastic baby’

Ever heard about a ‘plastic baby’ who looks like a rubber doll and sheds skin like that of reptile scales. A plastic baby born in Amritsar has become the center of attraction in the region as birth of such babies is rare and occurs once among six lakh newborns. The plastic newborns are scientifically known as collodion babies. The mother of the baby hails from the Rajasansi area of Amritsar district in Punjab, which is located some 240 km from here. Doctors of Guru Nanak Dev Medical College and Hospital in Amritsar had examined the baby on Friday. “The baby starts crying when someone touches her. She looks like a rubber doll and her face appears to be similar to that of a fish. Her eyes and lips are red hot. She is also not able to take feed from her mother,” a doctor who attended to the plastic baby, said. Confirming the birth of a plastic baby, Dr M. S. Pannu, Head, Department of Paediatrics, Guru Nanak Dev Medical College and Hospital said that a collodion baby was brought to the hospital for treatment on Friday. “This is a kind of genetic disorder. It is due to mutation of certain genes and is usually an autosomal recessive, congenital ichthyosis (scaly skin condition).” “However 10 per cent of collodion babies have normal underlying skin – a mild presentation known as ‘self-healing’ collodion baby. The skin of this baby, like others born with this deformity, is very thick,” Pannu said. He said that plastic babies develop cracks in their skin after birth and baby’s membrane gets peeled off automatically within a period of 15 to 30 days. In some cases, the plastic coating-like skin makes the life of the child miserable. The baby remains under constant threat of infection when the body sheds skin. This threat remains all life. Collodion babies, who are often premature, are also known as plastic babies. They are born encased in a skin that resembles a yellow, tight and shiny film or dried collodion (sausage skin). The collodion membrane undergoes desquamation or peeling, which is very painful. “This is a very rare disease and is found in one among every six lakh babies. This is a kind of wax and shining skin which is also tight. At times the plastic babies report hypothermia and dehydration besides other problems. I treated one such baby a decade ago. The skin at times sheds itself within two to three weeks but the period is very painful for the baby which cannot close its eyelids,” Chandigarh-based child specialist and Director, Bedi Hospitals, Dr R. S. Bedi told Mail Today. This is the second such baby born in Amritsar. Earlier in 2014 too, a plastic baby was born in the civil hospital but it died within three days of birth. (Source: A friend’s Post on a social networking site - May 12, 2015)

9.6: CIGARETTE SMOKING and LUNG CANCER

About 48 million adult Americans smoked cigarettes last year. That’s one in four people. It is alarming. Why? Because this year an estimated 180,000 people will be diagnosed with lung cancer in the United States, and 90% of them will die within three years -- and 96% of these cancer victims are cigarette smokers.

9.7: New device will replace needles in the process of extracting blood

Surely there is no one who likes needles. There are those people that when have to extract blood, watch on the other side, or even lose consciousness. The blood extraction isn’t very pleasing experience, especially when the process is done by someone who is practicing. After few unsuccessful attempts and cracked veins, the extraction will be successful, but your hand and your veins might be destroyed. To stop this ignoble procedure yet to allow analysis of the blood of patients, a company funded by DARPA created a new device that you can take out your blood

without using a needle. Although it sounds counter-intuitive, but is true. Using vacuum, this device is several centimeters in diameter, will “swirl” blood through microscopic capillaries that can be found on the surface of the skin. Additional positive thing with this device is that it can keep the extracted blood for more than ten days and it can accommodate more samples, which means that you can store the samples for a week and then send the device for analysis without any fear that the samples will spoil. So far the blood sample is transferred to the laboratory at low temperatures to avoid this. The product will go on the market in 2016 and will help in the analysis of the blood samples of many people who wants to avoid needles, but need to make regular or semi regular blood tests and follow their inner states.

9.8: Are you aware of the existence of this noble and great man?

Mr. Kalayanasundaram worked as a Librarian for 30 years. Every month in his 30 year experience (service), he donated his entire salary to help the needy. He worked as a table waiter in a hotel to meet his personal needs. He even donated his pension amount of about Rupees Ten Lakh (1 Million) to the needy. He is the first person in the world to spend his entire earnings for a social cause. In recognition to his service, the American government honoured him with the ‘Man of the Millennium’ award. He received a sum of Rs 30 crores as part of this award... which he also distributed entirely for the needy as usual. Moved by his passion to help others, Super Star Rajinikanth adopted him as his father. He still stays as a bachelor and dedicated his entire life for serving the society. All our Politicians, Film stars, Business magnets, cricketers, Press personalities and all us Indians should be PROUD of this man...and also ashamed of ourselves. The American Government has honored him... but we Indians don't even know that such a personality exist amongst us...!!!! Hat's off Kalayanasundaram... the Indians that know about you... are extremely proud of you and say..."THIS HAPPENS ONLY IN INDIA"...!!!! (SOURCE: <https://creator.zoho.com/teamevere.../chennai-everest-visits/...>)

9.9: Indian scientists find a rare plant with potential anti-cancer properties

According to an IANS news item datelined Bangalore, a team of Indian scientists has discovered in the Western Ghats a rare plant which could open up possibilities for cancer treatment. The plant, with botanical name Miquelia dentate Bedd, is a small climbing shrub producing anti-cancer alkaloid -- Camptothecine(CPT). It occurs sparsely in Madikeri Forests in Kodagu in Karnataka, the researchers reported. The team of scientists, which belonged to Ashoka Trust for Research in Ecology and Environment, Bengaluru and University of Agricultural Sciences, Bengaluru / Dharwad, and are now working on the commercial cultivation of this plant."We plan to introduce this plant in coffee plantations and in arecanut gardens” said one of the lead study authors G. Ravikanth. "The challenge however is to mass multiply this plant," adds Ravikanth. Camptothecine is an important anti-cancer compound extracted from several plant species belonging to Asterid clade. It is a potent inhibitor of the intra-nuclear enzyme topoisomerase-I, which is required in DNA replication and transcription. Several semi-synthetic drugs such as Hycamtin (topotecan) and Camptostar (irinotecan or CPT 11) are derived from CPT and are currently in clinical use against ovarian, small lung and refractory ovarian cancer. Several plant species producing CPT have been found in India. But the demand for CPT

has resulted in extensive felling of the woody trees and plants like *Nothapodytes nimmoniana*, which is now on the verge of extinction and declared vulnerable. The findings were detailed in the latest edition of Indian Journal on Biotechnology.

<http://health.economictimes.indiatimes.com/news/industry/indian-scientist-find-rare-plant-with-potential-anti-cancer-properties/47289933>

9.10: NEWS IN BRIEF

9.10.1: Cat Gives Birth to a Dog in China: News report in Hindustan Times, May 13, 2015.

9.10.2: Cat Comforts Ailing Veterans at VA Hospital

Tom the Cat found a rewarding career as an End-of-Life Transition Specialist in the hospice ward of a Virginia VA hospital. In the two years he's lived there, he has roamed the halls freely like a doctor making his rounds, nibbles treats sneaked to him by patients and brings comfort to old soldiers and their families during an emotional time. "Animals have compassion; I've been practicing 23 years and there's an innate ability in certain animals that allows them to recognize people in their final stages." - American Association of Human-Animal Bond Veterinarians. (<http://homerfans.me/cat-comforts-ailing-veterans-at-va-hospital?v=l3ekLPSijbAtXDSUkvWc9cw41yOApg0q9w&page=1>)

9.10.3: Promote Earth Day: Save Our Water Brochure

Earth Day is celebrated each year on April 22nd. The Vegetarian Resource Group has a terrific brochure to show others about how much water is used to produce meat versus vegetarian food. The brochure is called Save Our Water – The Vegetarian Way. See: http://www.vrg.org/environment/water_brochure.php

9.10.4: Food and Agriculture Organization of the United Nations (FAO) Information:

One large egg provides part of the daily requirements of selenium (27%), vitamin B12 (25%), choline (23%), riboflavin (15%), protein (13%), phosphorus (11%) and vitamin D (9%). Learn more about eggs with our new #infographic: bit.ly/1PoONBW

10. FORTHCOMING EVENTS

Calendar of Conferences, Conventions and Symposia in India and abroad

Get your event listed in this section by mailing complete details to the Editor: rnkohli@gmail.com

10.1: Dairy Tech India 2015, 21 - 23 August 2015, BIEC, Bangalore

Dairy Tech India 2015, is being organized by Media Today group and is being supported by several other organizations. Contact: dairytechindiamtpl@gmail.com; www.dairytechindia.in

10.2: Veterinary Summit-2015, (veterinarysummit@omicsgroup.com), August

31-September 2, 2015 at Florida, USA. THEME: "Radical Approaches on Prevention, Diagnosis and Treatment of Wild and Domestic Animals." Contact: Veterinary Summit-2015, 5716 Corsa Ave, Suite 110, Westlake, Los Angeles, CA-91362-7354, USA; veterinarysummit@conferenceseries.com; veterinarysummit@omicsgroup.com

10.3: 39th Annual Congress of the Indian Society for Veterinary Surgery (ISVS) and National Symposium, September 1-3, 2015, Srinagar, J&K.

Theme of the Symposium: Recent innovations in Diagnosis and Treatment of Surgical Disorders in Ruminants and Equines with particular applicability in Hilly Terrain. For details Contact: Dr. Dil Mohd. Makhdoomi, Organising Secretary. Email: isvs2015srinagar@gmail.com

10.4: 32nd World Veterinary Congress, 13-17 September 2015, Istanbul, Turkey

Contact: http://www.wvcistanbul2015.com/?page=scientific_program&lang=en

10.5: 6th meeting of the LASA (www.lasaindia.in), 15-16 October, 2015, Navi Mumbai

The 6th meeting of the "Laboratory Animal Scientists Association" (LASA) India will be held at ACTREC (www.actrec.gov.in), Navi Mumbai during 15-16 October, 2015. Official first announcement of the meeting can be viewed on our website: www.lasaindia.in.

10.6: 29th Annual Convention of IAVMI -cum- Global Symposium, 27-29 Nov. 2015, Guwhati, Assam.

The 29th Annual Convention of IAVMI -cum- Global Symposium on Animal Health: Newer Technologies and their Application will be held at Guwhati, Assam from 27-29 Nov. 2015. For Details Contact: malikphisar@hotmail.com

10.7: International Conference on Nanomaterials and Nanotechnology (NANO-15) - 7-10 December 2015, Tiruchengode, Tamil Nadu

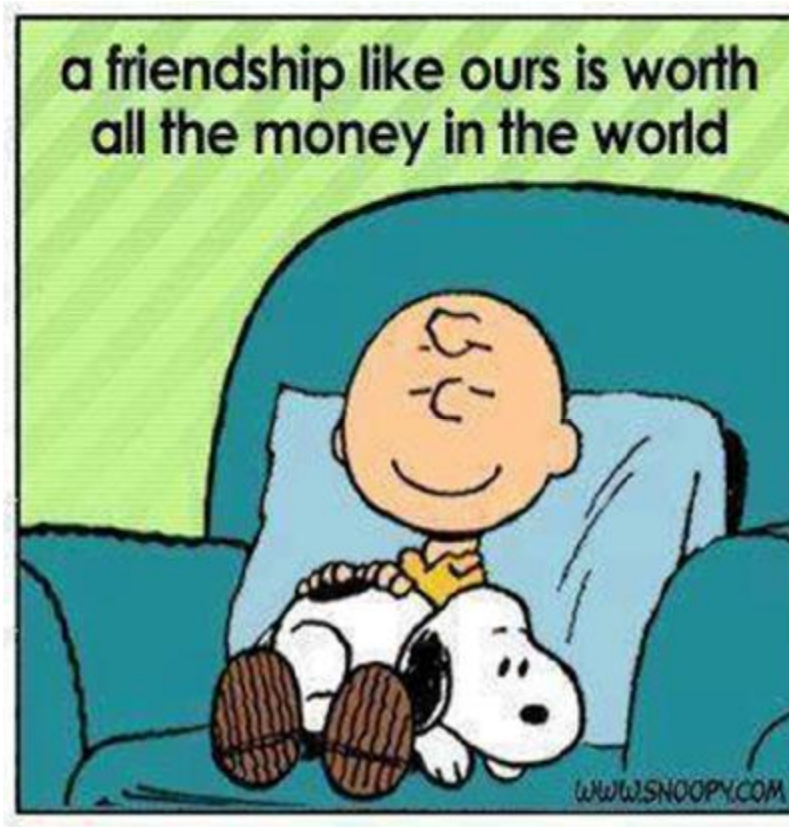
Organised by Centre for Nanoscience and Technology K.S.Rangasamy College of Technology, Tiruchengode, Tamil Nadu, India in Association World Class University (WCU), GIST, South Korea. *Salient features:* 6 Plenary talks includes two Nobel Laureates (Prof. Robert Huber, Germany and Prof. Kurt Wuethrich, USA) and four distinguished scientists

Prof.S.Banerjee, Prof.Baldev Raj, Prof.G.Sundararajan, and Prof. Malik Maaza; 17 Key note addresses; 60 Invited talks and more than 26 participating countries .

10.8: International Veterinary Information Services (ISVS) Announces Distance Education [DE] Calendar for 2016

Many distance education (DE) courses are open for enrolment at the **Centre for Veterinary Education (CVE) in Sydney, Australia, for 2016**. DE programs are mentored by leading veterinary experts who provide individual feedback and advice on completion of each module.

The Centre for Veterinary Education is committed to providing quality practical and applied professional development to Veterinarians for over 50 years and we have used our knowledge and expertise to offer superior distance education programs, allowing you to become the best vet you can be. <http://www.ivis.org/newsletter/archives/jun15/jun1215cve.htm>



Source: American Association of Human-Animal Bond Veterinarians

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