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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

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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
14. Fourteenth NAVS Convocation: 4th November, 2015 at IVRI, Izatnagar, U.P.
15. Fifteenth NAVS Convocation: likely to be held in October, 2016 at Amritsar, Punjab

CONTACT US

PRESIDENT: Prof. Dr. K.M.L. Pathak, Vice-Chancellor, Deen Dayal Upadhaya University of Veterinary and Animal Sciences. Mathura, U.P. Phone: +917500177888;
Email: pathakkml@yahoo.co.in

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Email: lalkrishna1948@rediffmail.com

EDITOR: Prof. Dr. R.N. Kohli, 922, Sector - A, Pocket - B&C, Vasant Kunj, New Delhi - 110070; Telephones: 011-46065021; 09968920200; Email ID: rnkohli@gmail

2. EDITOR'S NOTE



2.1: Dog Lovers, Stray Dogs and the Society

Since time immemorial, man is afflicted with a malady called 'Hunger'. After relying initially on the food supplied by nature, he soon learned to cultivate some food plants, and eventually to domesticate and exploit animals for food, useful by-products and services. The progress of man beyond the stage of primitive hunter-gatherer was made possible only by domestication and exploitation of animals. Though food still remains to be an important bond between man and animals, the domesticated animals have also become the trusted companions of human beings. It is widely believed that dog was the first to be domesticated and is often regarded as man's best friend. The animal-human bond that originated to satisfy man's stomach virtually ended in a lasting love affair.

DOGS AS HUMAN COMPANIONS

Millions of human hearts and homes are today being warmed by the faithful company of canine companions as pets. The pets are kept not only for company but also for a variety of other pleasures like sport, play, entertainment etc. Dogs are amazingly adaptable to the needs of humans. Services provided by dogs for humans include: dogs that guide the blind, assist the deaf, assist the mobility-impaired, even alert epileptic owners that a seizure is imminent, so the owner can sit down/take their medications before the seizure strikes. Dogs can be trained to turn on/off lights, pick up objects, and even pull wheel chairs for those who are handicapped.

The role of dogs in guarding people's properties and the use of their intelligence by police detectives and crime investigators are well known. Police dogs serve as protection for officers, as well as sniffing out drugs, explosives, and other dangerous chemicals long before a human can. Search and Rescue dogs use their powerful sense of smell to locate people lost or injured. The importance of dogs in the security forces can not be overemphasized. Their natural gifts of well developed senses, ferocity, speed and faithfulness, make them tangible assets for all security personnel. Besides, they are inexpensive to maintain, tenable and willing workers. In the current security scenario world over, law enforcement agencies and military utilize canines in various fields to safeguard property and protect lives of citizens.

Research findings released by the American Heart Association as early as 1980 found that pet ownership may be a therapeutic tool for postoperative coronary heart disease patients, especially those who lead isolated lives. The post operative survival time of patients with pets was significantly higher than those who did not have pets, regardless of how sick the patients were. These findings confirmed those of a previous study. Recent studies have also shown actual health benefits for people living with pets. These include lower cholesterol, lower blood pressure, reduced stress levels, and better mental health. Pets require our attention and providing the everyday pet care encourages us to interact with them and to get out. We, thus, benefit indirectly from the exercise and fresh air that we may not seek out on our own. This does wonders for our health and emotions. The '**pet therapy**' of involving the pets for interaction with the patients in hospitals and nursing homes has definite health effects both for those receiving therapy and those who bring in

their animals to hospitals and nursing homes. Hospitals, and children's hospitals in particular, usually allow pet therapy visits too, with amazing benefits for the sick and terminally ill. The pet-therapy animals also help autistic humans interact and live fuller lives. A current trend in nursing homes is to adopt a cat or small dog to live in the facility. This is a wonderful experience for the residents on a daily basis.

Although, healthy animals have been conserving the physical and mental human health since time immemorial, they are also prone to acquire diseases that are not only fatal to them-selves but are also transmissible to human beings. There are many bacterial, viral, fungal and parasitic diseases which fall in this category. In dogs, Rabies is one such fatal disease which is often transmitted to humans (hydrophobia) from dog bites. These days, a large number of dog lovers keep pet dogs in their homes. However, most of such homes in India (e.g. community apartments) do not have provision of space for exercise and other daily chores of the dogs. As a result many of the so called pet dogs are either let loose in the common areas of the community houses or are allowed by their owners to roam about in the streets, leading to numerous minor and major problems to the society. There are laws for proper keeping of dogs which prohibit the 'pet owning dog lovers' to indulge in the aforesaid type of irresponsible behavior. Non-observance of these laws often leads to social discord in the neighborhood. We have to overcome or prevent the following areas of human-animal conflict that usually arise in the human habitations due to pet dogs:

1. Pet dogs that frequently bark in the neighborhood disturbs the sleep of people and adversely affect the health of the public, particularly the senior citizens.
2. Pet waste in the streets, parks and areas of human habitation creates unhygienic conditions which are prone to transmit and spread diseases to people.
3. Pet dogs which aggressively threaten or bite known or unknown persons in the streets are particularly dangerous to children and senior citizens using the streets. The dogs that bite the strangers or friends visiting the homes of pet owners also come in this category. Cases of dog bites are a major public health concern.

Do you love a dog that bites you or your child or a visiting friend?

Some dog lovers may answer 'yes' to this question, but it is hard to love a dog that has bitten you or someone close to you. A number of studies have shown that aggression in a pet dog is one of the top three reasons for getting rid of it. Aggressive dogs are difficult to rehabilitate and dangerous to keep around so they are often relinquished to a shelter or euthanized. The levels of aggression seen in dogs may be related to genetic factors such as the dog's breed or the dog's sex (for example Golden Retrievers are remarkably low in aggression; and male dogs are more likely to be aggressive than the female dogs). However, things associated with the dog's environment, or factors associated with the way in which the dog's owners treat or interact with the dog might increase or decrease aggression. Researches have shown that certain methods of obedience training based on force and punishment, can trigger aggressive responses in dogs. An easy way of reducing the likelihood of aggression in our pet dogs is to reduce the amount of physical punishment that we apply to them in our daily interactions.

Guidance for vets on dangerous dogs: What should vets do when a pit bull terrier walks into the waiting room?

This question was presented by the President of British Veterinary Association (BVA) under the banner "Bad dogs or bad law?", when BVA and The Webinar Vet

joined forces to deliver an informative and thought provoking webinar on dangerous dogs to over 350 live attendees (www.bva.co.uk/dangerousdogs). The BVA President Robin Hargreaves, a small animal practitioner, outlined the legislation on “Dangerous Dogs Act 1991” as it stands across the UK and explained what action the BVA and others have taken in campaigning to move away from breed-specific legislation towards a more preventive approach. Robin also explained what the current legislation means for vets in practice by drawing on the new BVA guidance on dangerous dogs, which is now available for members to download at www.bva.co.uk/guides. The guidance covers what vets should know when presented with a dog suspected of being of a banned type, what advice they should give to clients, and where to find further information to help encourage responsible ownership and promote safe interaction between people and dogs.

THE STRAY DOG ISSUE

Most free-roaming dogs belong to an ancient canine race known as the Pariah Dog, which has existed all over Asia and Africa ever since human beings started living in settlements. They are, and have always been, scavengers—that is, they live on garbage created by humans. In India the breed has existed for perhaps 14,000 years or more. In addition to scavenging, they are widely kept as pets by rural and urban slum households. Much of the urban stray population consists of mongrels or mix-breeds—descended from pure-breed dogs who have been allowed by their owners to interbreed with pariahs. The size of stray dog populations always corresponds to the size and character of the human population of the area. Urban India has two features which create and sustain stray dog populations: (1) Large amounts of exposed garbage, which provide an abundant source of food; and (2) A huge population of slum and street-dwellers, who often keep the dogs as free-roaming pets. Mumbai has over 12 million human residents, of whom over half are slum-dwellers. At least 500 tonnes of garbage remain uncollected daily. Therefore conditions are perfect for supporting a particularly large population of stray dogs. In addition to this, several other factors are contributing to the rise in population of dogs in residential colonies. Some residents in the housing complexes of Delhi have been regularly feeding the stray dogs in front of their homes, and on pavements and side-walks etc. This is being practiced in my housing complex too although Delhi high court issued orders in 2009 to direct the residents to use the designated areas earmarked for the purpose in the housing complex itself. The Residents Welfare Society of the complex has advised the victims of ‘animal menace’ to register written complaints in this regard with the Police. All the residents who sight any non-compliance of the aforesaid high court order have also been advised to click pictures and share details with the Residents Welfare Society. Some of the recent random news headlines (**See Box**) appearing in the national news papers and local community publications will underscore the seriousness of the issue being faced.

DOG BITES AND RABIES

Animal-bites are a significant cause of morbidity and mortality worldwide. There are no exact global estimates of the incidence dog-bites. However studies suggest that dog-bites account for tens of millions of injuries annually. In the United States of America for example, approximately 4.5 million people are bitten by dogs every year. Of these, nearly 885000 seek medical care; 30000 have reconstructive procedures; 3–18% develop infections and between 10 and 20 fatalities occur. Other high-income countries such as Australia, Canada and France

have comparable incidence and fatality rates. Low- and middle-income country data are more fragmented. Some studies, however, reveal that dogs account for 76–94% of animal-bite injuries. Dog-bite fatality rates are higher in low- and middle-income countries than in high-income countries as rabies is a problem in many of these countries, and there may be a lack of post-exposure treatment and appropriate access to healthcare.

Some of the recent random news headlines

Fear of stray dogs forces Vasant Kunj residents to stay indoors (24-7-2015);
Are pet dogs as safe for outsiders (July 2015);
Stray dog menace in Sector - A (B&C) (July 2015);
High Court seeks detailed report from civic bodies on stray dogs in Capital (6-8-2015);
Strays take over GK-1 park, residents agitated (13-8-2015);
No census on street dogs in last six years (17-8-2015);
Action likely against owners of dogs not vaccinated (22-8-2015);
8-Year old victim of Malviya Nagar dog attack critical, dog owner arrested (30-9-2015);
Civic laws on pet dogs never invoked in past 50 years (30-9-2015);
Everyday residents are being bitten by stray dogs: Can someone help us to solve the problem (November 2015);
SC raps govt. bodies on stray dog menace;
Pay relief to those bitten by dogs: Supreme Court (1-12-2015);
Soon, civic body to start sterilization of stray dogs (4-1-2016);
1 dog bite every 6 minutes: Capital faces canine crisis (18-1-2016);
NGOs announce Rs. 1 Lakh reward on dog killer, put video on web (21-3-2016).

India is a rabies endemic country with the highest incidence of rabies cases with approximately 30,000 deaths per year and more than 1,000,000 people undergoing anti rabies vaccination every year. Around 30 to 60% of post exposure prophylaxis vaccinations are given to children below the age of 15. India has 36% of the global and 65% of the Asian rabies burden in terms of cases. Every year nearly 36% of the global deaths due to rabies occur in India, WHO estimates. In absolute numbers it translates to 20,847 deaths. Information obtained under RTI has revealed that an average of 7,729 dog bite cases per month were received by the capital's 35 government hospitals between January and October 2015. The figure is expected to be much higher as the figure does not include cases received by private hospitals. Many cases also go unreported. Taking cognizance of the death of a seven-year old boy hacked by a pack of stray dogs in Delhi, the municipal corporation decided to take action against pet owners who have not vaccinated their pets against rabies. According to an estimate of the civic body there are more than 300,000 dogs in the city, including pet dogs. But less than 10% of the pet owners have registered them with the civic authorities, although it is necessary to do so according to Delhi Municipal Corporation Act 1957 which provides for control and regulation of dogs (Section 399). The Supreme Court of India has expressed concern over the rising incidents of children being bitten by stray dogs and has sought response from the central government on how to control the menace. Some dog lovers blame the civic bodies, not the strays, for Delhi's dog menace.

They say that stray dogs are fundamental to our ecological balance as they keep rodents in check. They also believe that pets bite more people than strays annually. The latter may be true in view of the huge number of dog bite cases observed in America and other high income countries such as Australia, Canada and France, where seemingly there are either no street dogs or are very negligible in number. The number of people who abandon their pets in the streets is also not likely to be significant in these countries. Let us, therefore, examine if strays the real problem?

Kashish, an eight-year-old, was playing in a park in Malviya Nagar when a neighbour's pet dog savagely attacked her. In a more publicly reported incident, Maharashtra Navnirman Sena chief Raj Thackeray's wife Sharmila was bitten on her face by their own pet dog in Mumbai - an attack that required her to undergo plastic surgery. In Kochi, of the 1,074 dog bite cases reported in 2015, pet dogs were the culprits in 75.6% cases. Stray dogs accounted for just 24.4%. Geeta Seshamani, who runs the oldest animal welfare facility Friendicoes, says, "The dog bite figures are probably derived from the number of sales of anti-rabies vaccines and hence not true. Most importantly, most of the dogs that bite are usually pets - these figures do not separate pet dogs from street dogs."

An esteemed colleague and friend wrote the following illuminating piece regarding the position of stray dogs in India:

"Unlike many countries it is difficult in India to differentiate stray dogs from domestic dogs. Though all dogs appearing in the street could be stray dogs they could also be, a) domestic dogs released at night, b) Domestic dogs unleashed during day only c) loose watch dogs that moves freely accepting food from many houses of the street d) along with it are dogs sponsored by clients of fast food shops who establish part-time companionship with them e) street food vendors pavement shops, taxi stands or watchmen of big offices/ colleges too are seen establishing such sponsored companionship e) slums often sponsor dogs wandering in their territory. f) Un-domesticated pariah dogs which remain all the time in street or in their hide outs. Regularly added to this are i) mongrels born from street dogs out of misalliance with domestic dogs (good male pups are adopted while females are left behind) b) mongrels born from domestic pets out of misalliance with stray dogs (mostly thrown out on street before they are weaned c) Abandoned Pets: many pets past their prime of age or suffering from chronic diseases are often abandoned by owners (extreme cases of irresponsible ownership)"

Either way, Delhi seems to have literally gone to the dogs. What we do know is that Delhi's dog population is on a steady, upward graph and even fair-minded animal-activists acknowledge that protestors have a point. The last dog census was conducted in 2009, according to which the dog population in Delhi stood at 5.62 lakh. No official census of street dogs in Delhi has taken since then. A dog census is now being planned by Delhi's Municipal Corporations. According to data thrown up by a recent RTI petition on dog bites, a dog bite is reported every six minutes. Other sources put that figure at one bite every minute. Government records put the figure of stray dogs at 4 lakh, though unofficial reports say it is closer to 7 lakh canines on the streets. Of the 4 lakh dogs on the streets, 30,835 were immunised and sterilised by the civic bodies. Around 84 dogs are sterilised a day. The number of humans bitten each day is three times more: 252. The reality is stark, but some people console us by saying that, such as it is, your chances of being bitten are under 0.5 percent (if we take the capital's base population as 1.68

crore and dog population at 4 lakh). In other words, the chances are no more or less than your chances of dying in a road accident, or being murdered. But is the issue of stray dog only of mortality? It is also of fear, inconvenience, and disease. It's of parents who fear for their children and old people who limit their movement outdoors to avoid strays. Neither of these are tenable realities for a country's capital, and for a city as populated as Delhi. Recent incidents of people killing dogs, though unpardonable in a humane society, are a reminder of the frustration of some of the affected people who tend to solve the so called "Canine Menace" in their own gruesome way. Clearly, it's time for Delhi to get its act together, and to face the facts. We can not, and must not, allow murder of street dogs on India's streets. It is absolutely imperative to strike a balance between human and animal rights.

THE HUMANE SOLUTIONS

The ever-increasing dog population has been a concern across India, not just Delhi. A couple of years ago, Chennai wanted to dump its dogs in a pound. More recently, Kerala started culling dogs till it was made to realise that the solution lay in a rigorous sterilisation campaign. Dogs cannot be wished away to a pound or a shelter which most people imagine as a paradise for canines. Dog overpopulation is not an unsolvable problem. It could have been sorted out if the civic bodies got their act together and implemented the ABC programme in earnest. Instead, the civic body of Delhi (NDMC) decided to run a text message campaign last November asking if Delhi dogs should be relocated to sanctuaries. A week later NDMC was forced to withdraw the campaign. Anjali Gopalan, director of Naaz Foundation and trustee of All Creatures Big and Small, a non-profit organisation that rehabilitates animals in distress, says sending dogs to the pounds is impractical. "Who will pick up the dogs? Where will they get the money to feed them? Who will fund their treatment? Will the pounds be able to hold dogs indefinitely? How will they deal with fights as dogs are territorial?" She says dogs are an important part of our ecology, they keep rodents at bay. The Surat plague of 1994 is a case in point. The mayor removed all the city's strays and the city lost over a hundred people to plague. Sterilisation of dogs is a more cost-effective solution. It has been claimed that the places where the Animal Birth Control (ABC) programme has been implemented over a period of time they have become rabies-free with minimum cases of conflict. Rule 7(6) of the Animal Birth Control (Dogs) Rules enacted under Section 38 of the Prevention of Cruelty to Animals Act stipulates that dogs "can only be sterilised to control their population, immunised against rabies and then released back to the very same location from which they were picked up." The National Human Rights Commission has observed that dropping back stray dogs after sterilisation does not shield people from attacks. The panel rightly called for a "human rights" versus "animal rights" debate. These observations should be viewed in the light of existence of numerous dogs (both pets as well as strays) with violent behavior.

The courts endorse Animal Birth Control (ABC) as the only scientific, humane, rational and lawful solution to controlling the stray dog population and eradicating the threat of rabies. The Supreme Court has put an end to the inhumane and indiscriminate killing of stray dogs across the country. Only dogs that are mortally ill or critically wounded can be euthanised by civic bodies in a humane manner under provisions of the Prevention of Cruelty to Animals Act and the Animal Birth Control Rules of 2001. Even rabid dogs are to be isolated and allowed to die a natural death. In its interim order, the Supreme Court bench comprising Justices Dipak

Misra and SK Singh said local authorities had a "sacrosanct duty" to provide the requisite infrastructure - so that humans and canines can coexist harmoniously. And that humans do not suffer because of administrative lapses.

Whether it is lawful to kill dogs merely because they are homeless is a question set to be answered by the Supreme Court. However, while it is necessary to protect stray dogs from indiscriminate killing, the concern over violent street dogs attacking people and endangering human lives cannot altogether be ignored.

There is also a need to enact and/or implement a law to protect the public from pet waste. A colleague found the following public notice in USA when he was traveling from Boston to Philadelphia:

PET WASTE TRANSMITS DISEASE
LEASH AND CLEAN UP AFTER
YOUR PET. "IT'S THE LAW"
MAX. FINE \$ 500

On face of it, this law is against 80% population who are keeping pet animals but he has witnessed the behavior of Americans who welcome such a law and are against those who try to break it. Contrary to the American law, it is routinely observed in India that our pet owners walking in the morning and evening with their dogs are allowing them to defecate in public places, including children parks. Either they are ignorant about the diseases transmitted by these wastes or ignore the health problems of their neighbors as well as their children who come to play in these places.

THE ONLY WAY FORWARD

The respective **civic bodies** must get a **dog census** done, and undertake the **vaccination and sterilization** of all stray dog population of all the towns. The respective civic body must ensure the **licensing and registration** and regular vaccination of all pets. They must recognize the need for a strong will to tackle the stray dog 'menace' to better implement the existing laws along with development of **better infrastructure**, such as having skilled dog catchers, more **animal ambulances**, and more and well spread out **vaccination centres**, apart from creation of adequate and **modern veterinary surgical facilities**.

There is a need for **public education** with regard to pet management, particularly regarding vaccination and sterilization of dogs and public health issues related to dog bites and their prevention and treatment. When the clients recognize the services available to them from the veterinarians with regard to the pet animals and the public recognizes the urgency of getting medical services for the dog bite victims, would they approach the appropriate centres where the said facilities are available.

On their part, **pet owners** will need to get involved in the process, and display civic sense. They should register their pets with the Municipal Corporation of Delhi in keeping with the Delhi Municipal Act, 1957 (or their equivalents in other towns), as well as to follow the AWBI guidelines for pet owners. They should ensure that:

- a) Their pets do not become a nuisance to others.
- b) Under no circumstances should they abandon their pets in the streets.
- c) Make sure their dog's incessant barking does not disturb neighbours.
- d) Pets are healthy, vaccinated and sterilized.
- e) Clean up public place when a dog poops.
- f) Walk a dog on a leash in public spaces and in common areas.

The real and lasting solution lies neither in targeting all stray dogs by killing, culling or segregating the man's best friend, not in overzealously supporting the cause of the dogs, particularly the dangerous ones (whether pet or stray), over and above the safety and peace and wellbeing of the human society in general and the vulnerable sections of the society in particular. It is imperative to strike a balance between human and animal rights.

Some out-of-box initiatives that NGOs and individual groups are promoting to tackle the escalating tensions in this human-animal conflict include training of stray dogs to guard dogs, the use of shiny reflective collars on dogs to save them from vehicular traffic on roads, arranging sterilizations and vaccinations of stray dogs as social service to the residents, and use of social media and mobile apps for dissemination of specific information of on instances of injury, illness or existence of rabies in the locality to get quicker help from the like-minded persons to find immediate solutions.



“If ten percent of our politicians were educated, well meaning and honest and ten percent of our bureaucrats had the guts to stand up to their political bosses, India would have been a developed country.”

(Letter to the editor, India Today, January 25, 2016)

3. LETTERS TO THE EDITOR

Dear Dr. Kohli, thanks for mailing the January, 2016 issue of NAVS Newsletter for which its readers in India and abroad await. Like previous issues, the Newsletter has very useful information on various aspects of veterinary and animal sciences, institutions, activities, events and persona. At this occasion we wish you a happy and healthy 2016, and long life to serve the profession through NAVS. **Prof. (Dr.) M. P. Yadav**, Secretary, NAAS; Editor, Agricultural Research; President, IAVMI, and Past President, NAVS (<yadav_mp@hotmail.com>)

Thank you very much for the NAVS Newsletter -- a fantastic infotainment for veterinary policy makers of India. This is a useful at-a-glance capsule for our profession. Sir, of late, VCI has circulated proposed MSVE to different Colleges and universities in India. It appears that the proposed MSVE is arbitrary, discriminating and does not conform to various sections of IVC Act, 1984 and the judgment conferred by Supreme Court of India in July, 2014. As the proposed MSVE will soon be introduced in recognized veterinary colleges in India, the matter needs to be addressed seriously. Enclosed is a copy of the proposal for amendments to the in ensuing MSVE before its Gazette notification. However, I have already given my feedback to the VCI at its website. **Dr. Sunit Kumar Mukhopadhyay**, Retired Prof and Head (LPM), Rajiv Gandhi Institute of Veterinary Education and Research, Pondicherry. <skmpath@gmail.com>

Dear Dr Kohli, I am extremely saddened to learn of the demise of Dr C Krishnarao, a doyen of the profession on 9/12/2015. He relentlessly worked for the uplifting of the profession till his last breath. His positive outlook to uphold the interest of the professional integrity at all times combined with forthright criticism of lapses helped in creating a good image of veterinary profession in the country. In his death we have lost an outspoken leader. I deem it a personal loss as I considered him my guru in every respect. I offer my prayers for peace to the departed soul with assurance that the profession in this country will fulfill his expectations.

Dr. Keshava Murthy <bskmurthy@hotmail.com>

Respected Sir: It is always great to receive wonderful, educative and highly informative Newsletter from you. I am looking forward to receive the next issue.

Dr. Rajesh Singathia, Assistant Professor (Veterinary Microbiology), RAJUVAS Training and Research Centre, Churu, Rajasthan; drrajeshsingathia@yahoo.com

Dear Dr Kohli: I am very impressed with the news of a Gir cow having created World Record in Milk Production of 7.56 Kg per day in Brazil. What a name given to her "FLAG". Let the Gir Flag fly high. Thanks and regards

Dr. R.S. Khanna, <dr.rskrsk@gmail.com>

Dear Dr Kohli: Thank you for sending me January 2016 Issue of the NAVS Newsletter. This is a good source of information about the profession for me who is away from the country. You are doing a great service to the profession. Regards

Dr. D.P. Monga, Coordinator PhD Program, Department Microbiology, Immunology & Parasitology, School of Medicine, Room # 63, Addis Ababa University, Addis Ababa, Ethiopia, <drdpmonga@yahoo.com>; Mobile no. +251 912627103

Dear Dr. Kohli, You have been making a splendid solo effort to timely bring out NAVS Newsletter. The information contained therein in form of scientific / technical writing and useable professional pieces of information in fact, is a treasure, which needs to be preserved. Since this document is being sent as a soft copy and that too, by and large to the fellowship, hardly a few retain it in their book shelves for future reference. Thus, in factual practice, this document has become an ordinary newspaper which gets discarded once read/ merely scanned.

Certain pieces of information are required to be shared at least with institutions dealing with livestock sector. In case, if we scan through NAVS Newsletter published during the last 3 to 4 years, we have very useful information that needs to be compiled up and documented. I therefore suggest that the Academy may publish a special issue containing all the useful information for the benefit of the teaching and scientific institutions, policy planners, regulatory bodies etc. The Academy may constitute a committee for this purpose to assist Dr. Kohli to accomplish this task or an alternate approach may be adopted to ensure retention of this document in libraries of scientific organizations and regulatory authorities.

Dr. Jitendra Singh Bhatia

I am thankful for receiving the NAVS Newsletter which is full of information and knowledge. With your vast experience and deep knowledge in the subject, such efforts will benefit the society as a whole. Sir, I will be touch with you for further guidelines.

Dr. Raja Rathinam, Planning Commission, 12th Five Year Plan (2012-2017), Working Group on Animal Husbandry & Dairying, Govt. of Tamil Nadu. Email: dr.rrajal@gmail.com

Dear Dr. Kohli, This mail is to request you for the including my mail id in the mailing list for the NAVS Newsletter. I work with the NDDDB Dairy Services (NDS), New Delhi. As you may be aware, NDS, a wholly owned subsidiary of the National Dairy Development Board (NDDDB), is a not-for-profit company under Section 25 of the Companies Act. It facilitates setting up and operations of Producer Companies (PCs) for milk operations and animal productivity enhancement services. NDS has facilitated setting up of five PCs, one each in Rajasthan, Gujarat, Andhra Pradesh, Punjab and Uttar Pradesh and is providing technical and management services to these PCs under the National Dairy Plan (NDP). Hope you would consider me to include in the mailing list. Thanking you in advance. Warm Regards,

Diwakar Srivastava, Practice Head-MIS, NDDDB Dairy Services, Tel.:+91-11-49883000 Extn.109, Mobile: +91-9871859091; Diwakar.Srivastava@nddbdairyservices.com.

Dear Dr Kohli, First of all, I thank you for publishing the news about release of our book "Remembering Dr Sc Dutt: The Parasitologist" in the January issue of NAVS Newsletter. Reading the news, it was a surprise for me that you have been associated with Dr SC Dutt at PAU. In fact, I was trying to contact any person who had been in association with my Guru Dr SC Dutt so that we may write his memoirs. Being a parasitologist, I was in contact with late Dr BS Gill hence he contributed an article for the book, which I have also loaded on my blog www.indianparasitologists.blogspot.com. Looking to your activities on Face Book, NAVS (I) Editorials etc, I am sure you are still very active and a voracious reader and writer (might be about 85 years or so). Therefore, may I request you Sir, to write your memoirs in association with Prof. Dutt. This I will like to publish in my blog as referred above.

Perhaps, you may remember, some time back I requested you to publish blog information in NAVS Newsletter so that we can have a link on similar blogs. You very kindly accepted my

request by publishing my request in the newsletter but sadly, I have received not a single information. I will request you to see my post of 15th August, 2013 in above blog where I have mentioned that even our scientific institutes have posted no information on their distinctive scientists. So is the case with our scientific associations.

There are many things to share but the letter will be too long hence I am stopping with the request to accept my request of writing about your association with Prof SC Dutt for my blog.

Dr. M.C. Agrawal, Formerly: Emeritus Scientist, ICAR; and Dean Veterinary College, Jabalpur, M.P. Email: drmcagrawal@gmail.com

Farmers are committing suicide in India due to debt and depression. Writing off part of their debt without helping them to recover and reinvest is of no use. Providing them subsidies at input and support price at output stage using public fund without a rationale keeps them from understanding the reason for their failure. This apart from encouraging them to be placid destroys the survival skill of the farmer. The reason for the poor or no return or the depression that follows is still not discussed or investigated. Small holder families allured to adopt technologies that are beyond their capacity and involving greater risk go into deep depression and often commit suicide following crop failure. Huge investments on irrigation, use of hybrid crops and fertilizer may make it possible to increase grain production. Profiteering of individual farmers is limited to high input-high output regimen. Human development with equitable gains evade low input regimen adopted by small holders. In media too, we do not come across reports on the plight of small holder or on the risk involved in animal husbandry in India. Good governance demands: a) plans to support farmers to use locally available land, water and energy optimally; b) increased production of staple food and animal feed in each region and locality; c) shift of emphasis from production of only grains to production of staple food including that of fruits, vegetable and foods of animal origin; d) Instead of attempting to bring water to land to intensify food production, explore the scope to shift production to water base i.e. production of fish, duck, geese, water plants etc. Water based animal production involves lower investment, is less risky and helps reclaim the mineral nutrients that are drained into water holes, rivers and sea which happens every rainy season. Water based production requires less energy use and produce staple food which is low in cholesterol. Along with the use of crop residues and common property resources, animal resource development helps the community to strike a balance among Man, animal and nature i.e. "ONE HEALTH" that meets the need of local community in a sustainable manner. All this is possible if we can organize our R&D through an independent Indian Council of Veterinary Research (I.C.V.R.). I hope that the government would consider it on priority, especially in the face of dwindling availability of land, water and energy happening in the name of development.

Dr. Rama Kumar V, Former Secretary, Veterinary Council of India



4: FROM THE PRESIDENT'S DESK

Over-Use and Misuse of Veterinary Drugs

As licentiates or practitioners of a treatment profession, we are aware of the perils of over use of medicines. One classic example is the anti-inflammatory drug 'Diclofenac'. Its rampant use on livestock had resulted in undesired accumulation in their tissues. As a consequence, severe decimation of vulture populations ensued due to scavenging on carrion/carcasses of medicated animals. The situation became so alarming that there were not enough vultures left to dispose of animal carcasses and their human counterparts in the Parsi community's "Towers of silence". In a frantic damage control, government authorities imposed a ban on Diclofenac for veterinary use. Another menace is the unethical usage of drugs such as Oxytocin, widely practiced by dairymen to extract/maximize milk.

A related practice is the wide usage of antibiotics as "Growth promoters/Performance-enhancers", given to food animals, particularly in poultry production. This highly prevalent 'norm' is fraught with the risk of residues in tissues and/or excretion in milk, even if the mandatory "withdrawal" period is enforced. Consumption of meat and milk from such animals are major risk factors for human health, as they contribute to rapidly emerging resistance among microbes. Globally, over 700,000 deaths each year are attributed to drug resistance. Antibiotics are the most sold drug segment in India with sales over Rs.1000 cr. annually. It is thought that doctors find it difficult to resist the hard-sell tactics of multinational drug cartels or simply try to "play safe". As recent as 2012, Margaret Chan, Director Gen. of the WHO, had warned that resistant microbes responsible for common infections were threatening to turn them into untreatable diseases. Every antibiotic ever developed was at risk of becoming useless, and as antimicrobial resistance is on the rise, we may be losing out on our first-line antimicrobials. In less than 4 years since Dr Chan's dire statement, bacteria that resist last-resort drugs (the so-called ' Super bugs') have been identified. Just three months ago, researchers in China identified a gene that can make bacteria (E.coli) resistant to last-resort antibiotic called Colistin. The resistance gene has since been detected in 19 countries in bacteria from farm animals, retail meat, or humans, according to a tally by the National Resources Defence Council (NRDC), which advocates for reducing the use of antibiotics in farm animals. At present, the gene known as MCR-1, is in Southeast Asia, Europe, Canada and Japan, but is likely to become more widespread. That is a dark scenario. The last-resort antibiotic Colistin is used to treat the kind of infections that the CDC calls "night mare bacteria" which kill 50% of the people who get them. Replacement treatments are more costly, more toxic, may need much longer durations of treatment, and may require treatment in intensive care units. Drug makers used the World Economic Forum in Davos in January 2016 to call for more investment to develop new antibiotics. New antibiotics may have to be developed from diverse sources as has been done by a group of British scientists recently.

This group developed an antibiotic from human breast milk that can combat drug-resistant bacteria. The NRDC says that widening resistance to a last-resort medicine is the latest urgent warning that the world needs to use the medicines we have, more carefully, particularly in raising livestock. The drugs are widely deployed on industrial scale farms, not just to treat sick animals but also to prevent disease and promote faster growth. The lesson for the veterinary professionals is to realize the potential risks to human health that can result from antibiotic

misuse in food animal production. Accordingly, we should act with greater sense of responsible professionalism, judiciousness and restraint in our prescribing, consultancy or management routine.

Prof K M L Pathak, Vice Chancellor, DUVASU, Mathura;
President, National Academy of Veterinary Sciences (India)
E-mail: pathakkml@yahoo.co.in; Cell: +917500177888

“The time may come when penicillin can be bought by anyone in the shops. Then there is the danger that the ignorant man may easily underdose himself and by exposing his microbes to non-lethal quantities of the drug make them resistant. Here is a hypothetical illustration. Mr X has a sore throat. He buys some penicillin and gives himself, not enough to kill the streptococci but enough to educate them to resist penicillin. He then infects his wife. Mrs X gets pneumonia and is treated with penicillin. As the streptococci are now resistant to penicillin the treatment fails. Mrs X dies. Who is primarily responsible for Mrs X’s death?”

Sir Alexander Fleming,
Nobel Lecture, 1945

5: VET TRACKS

(Appointments, transfers, promotions, awards, honors and felicitations etc.)

5.1: Dr. KML Pathak Retires as ICAR DDG (Animal Science) and Takes Over as Vice-Chancellor at DUVASU, Mathura

Prof. Dr. K.M.L. Pathak retired from his position of Deputy Director General (Animal Sciences), ICAR, Krishi Bhavan, New Delhi, on December 31, 2015. As you know, Prof. Dr. KML Pathak, is the current President of NAVS (I). We wish him the best in his 'post DDG life' and hope to have more time with him in NAVS (India). Dr. Pathak has posted following message for all his friends and well wishers:

“The dawn of New Year ushered me in a new phase of life. I superannuated in the eve of December 31, 2015 from ICAR and woke up on next day, which was a Friday, a working day, but without any hurry to get ready for office. And I was full of sweet memories of my profession, which finally took me to numero uno position in Animal Science as DDG (AS) along with fond reminiscences of great patronage, love, affection, respect and support I received during my work from my Seniors, colleagues, co-workers friends and well wishers. I, like every one, had my peaks and valleys; pinks and blues but it was a great ride. With all humility I think Almighty gave me all which I supposedly deserved or more than which I really deserved. When I was approaching superannuation, I started feeling a kind of a void; the kind of " asaa hun tur jaanaa ke din reh gaye thode" (The days left are a few in my going). It was a mixed feeling of missing my regular visit to the legendary power corridors of ICAR and of constant reckoning of the grace of God and affection of friends which sustained me as a normal and ordinary human being. If I plunge into enlisting the events and persons it would be a considerably long task. In short, I am elated, thankful and gratified to all my patrons, peers, friends and well wishers for their unconditional and benevolent support that made my experience at ICAR HQr very special in my professional career. Life is a sigmoid curve, and after this first platitude we often seek second exponent. I am not sure, yet I believe that whatever future stores for me, your beaming faces always shine beside me. Thank you all for every thing.”

In March 2016, Dr. KML Pathak took over as Vice-Chancellor of DUVASU at Mathura, Uttar Pradesh. We wish him the best of luck in his new assignment.

5. 2: Dr. Habibur Rahman Takes Over as DDG (Animal Sciences) ICAR

Dr. Habibur Rahman, Director, National Institute of Veterinary Epidemiology and Disease Informatics, Bangalore, has joined as Deputy Director General (Animal Sciences) on January 1, 2016. Dr. Rahman is a veterinary & animal scientist of national and international repute with more than 30 years of experience in premier research institutes covering different livestock species. He specially has bench work and academic experience in frontier areas of veterinary & animal sciences. We join the veterinary fraternity of India in heartily congratulating him at his new appointment. Dr. Rahman is an eminent Fellow of the Academy elected in 2007. By virtue of being DDG (Animal Science), Dr. H. Rahman will now be an ex-officio member of the Governing Council of the NAVS (India). We welcome him to the Council and hope to actively interact with him on matters of professional importance during his tenure at Krishi Bhawan.

5.3: Dr. S. Ayyappan Demits Office of Secretary, DARE and DG, ICAR

Dr. S. Ayyappan has recently demitted the office of Secretary, DARE and DG, ICAR on 22nd February, 2016. In an open letter addressed to all (posted on the website) issued on the eve of his departure, he reviewed the issues that were handled during his tenure and thanked all his colleagues and friends. **Excerpts:** “The overall strategy of the 'New Agriculture', as a knowledge-based enterprise for the farmers' well being had been outlined. I am happy to record that your ideas, innovations, and 24x7 involvement in whatever we planned and did in the Research-Extension continuum, bore fruits, with Smart Farming becoming a hallmark. I have had the privilege of leading one of the largest National Agricultural Research and Education Systems (NARES) in the world, the ICAR in building on the past, and contributing to the organisation with foresight, innovation and partnerships, both at national and global levels.” “With 'Motivate-Mentor-Monitor' as the mantra, 'Agri-Search with a Human Touch' , an idea, and 'Farmer FIRST' , an ideal, were shared by the entire Team ICAR and Family NARES, over these years.” “The informality that we have had is a great thing and I am beholden to every colleague; not a single telephone call, day or night, met with any murmur. I have called you on several occasions and received positive responses and inputs all the time. At the same time, Vigour and Rigour were evident in every process. Our dreams are also with us, in the form of Vision-2030 and 2050 documents.” “I place on record, appreciation to all colleagues, for the unstinted efforts in the service of the Indian farming community. I thank the family members of all colleagues, who also extended wholehearted support in the service of the Council. It has been a learning experience, both humbling and rewarding, and I would cherish the association with YOU from across the country, all my life. I would like to thank you, for the valuable guidance and support I received in discharging my duties at the ICAR, that has a proud legacy, as also a pivotal role in the lives of millions of Indians”.

5.4: Dr. Trilochan Mohapatra Takes Over As Secretary DARE & DDG. ICAR

Dr. Trilochan Mohapatra took over the charge of Secretary, Department of Agricultural Research Education and Director General, ICAR from Dr S Ayyappan on 22nd February, 2016.

Dr. Mohapatra was holding the position of Director-cum-Vice Chancellor of the prestigious Indian Agricultural Research Institute, New Delhi. Prior to this, he worked as the Director of National Rice Research Institute (formerly CRRI), Cuttack. He served National Research Centre on Plant Biotechnology, IARI, New Delhi as researcher and teacher for about 20 years. He is a scientist of global repute working in the area of molecular genetics and genomics.

Dr. Mohapatra has over 145 research papers in national and international journals of repute and several book chapters. His research accomplishments include development of the first high yielding Basmati rice variety resistant to bacterial leaf blight through molecular marker assisted selection, and physical mapping and genome sequencing of rice and tomato.

5.5: Dr. Gaya Prasad takes over as Vice-Chancellor of Agricultural University at Meerut, U.P.

Dr. Gaya Prasad, the former Director, Indian Veterinary Research Institute, Izatnagar, and ADG (Animal Health) at ICAR, New Delhi, has taken over as Vice Chancellor, Sardar Vallabhai Patel University of Agriculture & Technology, Meerut, U.P. in March 2016. We wish him the best of luck in his new assignment

5.6: Dr. Ashok Kumar takes over as ADG (Animal Health) ICAR

Dr. Ashok Kumar, Project Coordinator, Outreach Programme on Zoonotic Diseases & Head, Division of Veterinary Public Health, Indian Veterinary Research Institute (IVRI), was the organizing secretary of the event. He has recently joined ICAR, New Delhi, as Assistant Director General (Animal Health), the position which recently fell vacant due to retirement of Dr. Gaya Prasad. Phone: +91-9412761307 (M); Email: [ashok kumar <ashokakt@rediffmail.com>](mailto:ashokakt@rediffmail.com)

5.7: GADVASU Professor Wins Global Health Travel Award

Dr. Hari Mohan Saxena, Professor of Immunology at Guru Angad Dev Veterinary And Animal Sciences University, Ludhiana, has been selected for the prestigious Global Health Travel Award for participation in the Keystone Symposium on New Approaches to Vaccines for Human and Veterinary Tropical Diseases being organized at Cape Town, South Africa in May, 2016. The award is supported by the Bill & Melinda Gates Foundation and will cover all the conference-related expenses including meeting registration, lodging and airfare. Dr. Saxena has been doing innovative research on vaccines for important livestock diseases and his team has developed a new marker vaccine for Hemorrhagic Septicemia of cattle and a novel therapeutic vaccine for bovine Brucellosis.

The participants of this high profile meeting include scientists from multinational giants like Novartis, Genetech, Glaxo Smith Kline Vaccines and European Vaccine Initiative as well as the academic elite from the Nature Publishing Group, Universities of Oxford and Stanford, the National Institutes of Health, USA, The Pasteur Institute, Paris, The Jenner Institute, UK, International Livestock Research Institute, Kenya, and the Plum Island Animal Disease Centre, and the Craig Venter Institute, USA. Scientists from Canada, Switzerland, Australia, Italy, Spain, Germany, Brazil, Argentina, Denmark, Netherlands and several African countries will also participate in the conference.

Keystone Symposia is a premier, nonprofit, life science research and education organization that has been accelerating life science discovery through high-quality research conferences in different parts of the world. The Global Health Travel Award enables scientists from countries where the health problems are endemic to attend the conference on those topics to advance the life sciences and accelerate discoveries that benefit society. The selection is based on the criteria that the applicant is working in the subject area covered by the meeting and making a clinically or scientifically significant contribution to the area.

5.7: Dr Samit Kumar Nandi Felicitated

Dr Samit Kumar Nandi, Associate Professor, Department of Veterinary Surgery and Radiology, West Bengal University of Animal & Fishery Sciences, Kolkata received prestigious SCIENCE EXCELLENCE AWARD 2015 of Foundation for Science and Environment for contribution in the field of Science education and research. The award has been conferred to him during Inauguration ceremony at National Conference at University of North Bengal on 11th December 2015.

6. VIEW POINT

6.1: Regulation of Veterinary Practice: Some Suggestions

Dr. Rama Kumar V.

(A): Need for Regulation of Veterinary Practice.

Indian Veterinary Council Act, 1984 in its preamble has mentioned clearly that the Act was enacted to REGULATE VETERINARY PRACTICE and for the purpose provides for the establishment of the Veterinary Council of India and State Veterinary Councils. Regulation of Veterinary practice may have to be on the basis of prescribed minimum standards and transparent standard operative procedures (SOP). It is essential to prescribe the role to be played by the State Veterinary Councils, the Veterinary Council of India. In public interest a legally tenable law may include registration of each veterinary unit which provides public service so that the service seeker can identify which unit (or institution) is competent to provide the type of public service they seek. This regulation of veterinary practice is prescribed to further the objective of the IVC Act 1984 (52, of 1984).

The GATT (General Agreement on Tariffs & Trade), which came into force on 1st January, 1995 has thrown newer challenges and opportunities for the development of Animal Husbandry sector. Opportunities opened by World Trade in products of animal origin are immense provided India is able to ensure a Qualitative Risk Assessment (QRA) on their livestock and their products. Of late the welfare of animals who provide social security i.e.. food security, energy security and emotional security and plays a decisive role in sustenance is accepted Globally. Indian constitution is unique in that it has included compassion for animals and conservation of natural resources as a fundamental responsibility (obligation) of every state to its citizens and every citizen to the state soon after its independence in 1949. Article 51A of the constitution of India spells out these responsibilities in chapter IV. It is now recognized that if timely action is not taken many producers and including the cooperative sector dealing with animal products will be unable to avail the opportunities available because of the Global Market Pull for products produced through compassionate husbandry practices for which India's traditional practices are well known.

As demolition of Quantitative restriction effects demolition of the inter-state barriers, the Transmission of disease from one state to another, a central responsibility under constitution, would assume significance. In this respect, there is a much greater challenge caused by removal of restriction on import of commodities, animals and bio-materials. The country will not be in a position to control the entry of any material (animal/ its products) without any verifiable reason assigned. With the emergence of dreaded diseases like IBR, Mad cow disease, Bird flu or rift valley fever in countries that can export animals, bio-materials like semen, embryo, or bird eggs or products like milk, meat, chicken or egg into this country one cannot overrule the possibility of entry of any one or all of the major exotic diseases (especially virus strains and/ or prions). Though the clauses of WTO provide for deterrence of such entry, it has to be supported by lab. tests that are unquestionable (i.e. by following global standards). This process necessitates establishment of sophisticated laboratories (P3/ P5 level) with proper containment facilities, use of quality inputs and facility for standard techniques to be carried out by persons with the necessary training and their recognition. This shall be done by evaluating, strengths and weakness of Veterinary service and training of the state/ country at various level of detection & defense against disease, viz. incidence, introduction and/ or spread of disease.

QRA includes: a credible Veterinary service system, (Good Veterinary Practice), international harmonization of testing system with updating of test laboratories that follow good laboratory practice (GLP). This would mean ensuring minimum standards of Veterinary practice, Veterinary education, specialized Veterinary training in specific areas, standard tests (using internationally accepted & validated reagents,) as well as monitoring the preciseness of environmental conditions required for transmission of disease agents including the epizootology. Transparent information is needed to satisfy international agencies to claim regional or country-wide freedom from certain diseases especially type 'A' diseases defined by Office Internationale des Epizooties (OIE) an organization which is the nodal agency to the World Trade Organization (WTO) on animal disease issues.

Unless we have a credible Veterinary service, transparently regulated through mandatory standard(s) where the quality and number of personnel, their training, their competence and the method of service rendered is ensured through acceptable standards the state or region (territory) or the country will not be able to enter the international market with its products, be it milk, wool, leather or fur. This facility has to be subjected to regular accreditation through periodic inspection in our routine. The credibility once lost, will take years of efforts to regain as it would be subjected to much stricter verifications and stringent tests. As it is, at present India was given a grace period up to 2002 A.D. to comply with WTO standards.

In 2000-2001 the Regulation Committee of Veterinary Council of India discussed at length the issue of regulation of Veterinary practice, the background material containing Guidelines for Regulation of Veterinary Practice and recommended that the Council should take immediate steps for preparing some draft rules and Manuals. It was recommended that a minimum standard for the primary veterinary centers like dispensaries, hospitals, higher level units like polyclinics, higher referrals etc. should be made and Standard Operative Practice (SOPs) for each be prepared through the Manuals.

The Committee considered it necessary, to interact with State Governments to work out a feasible minimum standard that is implementable with due regard to the regional perspective. For this it was suggested that the Regulation Committee or a sub-committee should interact with various State Governments either State wise or Zone wise and come out with a practical recommendations on the minimum requirements. It was also decided that while good veterinary practice has to be there, standards for an ideal situation and a minimum practicable level need be spelt out. For this the following points were considered:-

- a) Need & resource of the community
- b) Its awareness on general health care and Husbandry and its perception of good Veterinary practice.
- c) Promoting relevant & feasible husbandry practices acceptable to the community.
- d) Minimum veterinary medical support needed and available.
- e) Health care, health promotion and prophylaxis needed and available
- f) A limited input support, and intervention in areas as identified through a pragmatic Participatory Developmental Appraisal (PDA)

Regulation of Veterinary practice shall include:

1. Adhering to Regulation of disease reporting system (as ordained through an Infectious Disease Act.)
2. Minimum standards of infrastructure, quality of equipment, their optimal use and regular maintenance, training norms at each level to ensure a good veterinary practice
3. Requirement to adhere to a national Veterinary Pharmacopeia for veterinary practice.

4. Norms (minimum standards) for Regional diagnostic lab (s) with all components including manpower, infrastructure, equipments & Standard Operative Practice (SOP).
5. Standard Training norms (Human Resource Development)
6. Standard data generation mechanism (National Animal production and health information system (NAPHIS))
7. Service norms for animal resources management ((production, economics & marketing)
8. Norms for early diagnostics, disease prevention and treatment.
9. Norms for supply, support and maintenance support system (SSMS)
10. Norms for Monitoring for supervisory machinery.

The regulation shall prescribe norms for Veterinary service operating through primary Veterinary centres (often called dispensary), veterinary hospitals, specialist services, specialized services, support system (Supply, Support and Maintenance Service SSMS), state administrative service and central government Veterinary service.

(B): Minimum Standards for Veterinary Practice -

It is suggested that minimum standards for veterinary practice must include:

1. Minimum standards for infrastructure, quality of equipments, training norms to enable a good professional practice.
2. Regulation on an unambiguous reporting system (as ordained through an Act or ordinance).
3. Requirement to adhere to use of cost effective and efficient a Veterinary Pharmacopeia.
4. Norms (minimum standards) for Regional diagnostic lab.(s) with all components including specially trained manpower, infrastructure & Standard Operative Practice (SOP).
5. Standard Training norms (Human Resource Development).
6. Standard data and information generation system (NAPHIS) through regular reporting [see 2.]
7. Service norms for animal resources management ((production, economics & marketing)
8. Norms for disease diagnostics, treatment. and prevention
9. Norms for supply, support and maintenance support system (SSMS)
10. Norms for Monitoring by a regular supervisory machinery.

Components of a holistic Veterinary medical service system: shall include the following components:

1. A Disease Regulatory Mechanism operating uniformly in the state/ country. The prevention of animal diseases is primarily a state subject. But as per the constitutional provisions the prevention of extension from one state to another the spread of infectious or contagious diseases or pests is a concurrent list subject (list III at item No. 29). Therefore both centre and states has the obligation to make laws in this regard.
2. An Unambiguous and Systematically Laid Minimum Standard for infrastructure, equipments, training and norms for 'Good professional Practice' (like good medical practice or good veterinary practice GVP/ GMP)*
3. A Legally Valid Pharmacopeia, with prescribed input standards, norms of good manufacturing practice, risk assessment etc.
4. Regional And District Diagnostic Laboratories with proper containment facilities using standard reagents and biologicals and conducting standard diagnostic tests. [These are pre-requisites for standard reporting systems as per international norms like norms of Office Internationale Epizootic or OIE]

5. Training Norms for Man Power for each level of / medical/ Veterinary service delivery and relevant to each region. (as an extension of regulations for minimum standards of veterinary education)
6. A Standard Data Generation Mechanism (component) in the form of a national animal production and health information system (NAPHIS). Normally such a system shall have data originating from animal, farmer, household, village up to district level. [Electronic communication linking every district of the country is available through National Informatics Centre's network (NICNET). But a data generated from data at grass root level is important]
7. Well Planned Resource Management as per regional need and perspective involving norms for selection of food/ feeding, resource mobilization, early health care and plan for conservation of nature and animal stock.
8. Diagnosis and Treatment Of Individual Animal/ Human Diseases including norms for primary centre, hospital, transport etc. [animals are generally reared by millions of small holders]
9. A Supply, Support & Maintenance System (SSMS) including stores & supply, cold chain & general maintenance and the support of specialists from specialized units, polyclinic, ambulance facility, reach out facility with professionals suitably trained for the purpose at each level of support service.
10. A Monitoring and supervisory (administrative) machinery who has the competence & training for planning, decision making in respect of evaluation and modification of the development plans as per need from time to time and is accountable to provide results.

6.2: SOME FACTS ABOUT OSTRICH MEAT

Kedar Karki

Ostrich meat is recognized as a valuable product of high nutritive and dietetic value making these birds important for many livestock industries. Demand for such products in Europe has recently increased especially also among consumers who pay a greater attention to the quality of consumed products. Nowadays, the modern consumer wants to be sure of the nutrient composition of food that is bought for consumption. Consumer of ostrich meat is a medium-to-high cultural and professional status person, defined as a modern attentive consumer aged 41-50, principally women, with a purchasing behavior essentially related to nutritive value, safety of the product, intrinsic characteristics and taste. It should be emphasized that nowadays consumers also appreciate naturalness and safety of ostrich meat produced from birds with almost natural methods, excluding the use of technologies such as intensive fattening or antibiotics administration. It is important also for them that ostriches are usually kept in sustainable production systems with consideration of high animal welfare standards. However, ostrich meat in Europe is still a niche product unknown by many people, but it is appreciated by most of consumers who tasted it. Unfortunately, until now the current knowledge of the nutritive value of this meat is still limited to consumers.

Meat from ostriches fed a standard diet contains 21.65, 1.95 and 1.2% protein, fat and ash, respectively. The fat content of ostrich meat was lower and varied from 0.2 to 0.71g/100g of edible meat. Meat from older ostriches (10-12 months at slaughter) contains more fat and dry matter than from respective younger ones (8 months). As regard either essential or non-essential amino acids content in ostrich meat is generally similar to other meat types except for histidine and serine. The intramuscular fat content is one of the most important factors influencing consumers' choice with regards to meat type. Ostrich meat is naturally improved meat because of its low content of intramuscular fat. This type of meat is recommended for overweight people

and for those who suffer from coronary heart disease. On the other hand, low fat content is related to lowered juiciness of meat.

The most important factor affecting fat content of meat is feeding. From studies on other species it is known that not only composition of a diet and addition of fat to the diet influences fat content of meat. Also the level of energy and protein (amino acids, especially lysine) can change its content. Meat in human diet is considered an important source of protein and minerals, especially iron and zinc. Raw ostrich meat is rich in total iron (2.32- 4.02 mg/100 g). In general, ostrich meat has the highest content of iron from all meat sources available for humans, e.g. buff or chicken (1.93, 0.4-0.7 mg/100g, respectively). Thus, it can be an important source of iron for anaemic patients as well as for pregnant women and complements metabolic and cellular processes including activities in leukocytes. Iron is essential for haematopoiesis. Zinc levels of raw ostrich meat varied between different carcass cuts: 3.1 mg/100 g of leg and significantly less in sirloin and fillet (2.5 and 1.96 mg/100 g respectively). These levels were still higher than in other poultry meats: 1.71, 0.65, 2.47, and 1.08 mg/100 g of chicken thigh, chicken breast, turkey thigh and turkey breast, respectively. However, zinc concentrations in buff sirloin and buff fillet were higher: 4.09 and 4.01 mg/100 g, respectively. Levels of zinc in ostrich meat varied between 2.02 and 4.30 mg/100 g in different muscles. Copper levels determined in raw ostrich meat ranged from 0.103 to 0.187 mg/100 g. In other species levels of copper were lower: 0.07- 0.09, 0.05 and 0.06 mg/100 g of buff, chicken and turkey, respectively. In turn, calcium reached a maximum value of 5.62 mg/100 g of meat comparable to 6 mg/100 g recorded for buff, but considerably lower than chicken meat (12 mg/100 g of edible meat). Very low sodium content of ostrich meat (32-36 mg/100 g) compared to beef. Thiamine (vitamin B1) levels were found higher in ostrich than in buff or chicken meat. Riboflavin (vitamin B2) and pantothenic acid (vitamin B5) levels occurred similar in ostrich meat and in buff, while chicken meat is lower in vitamins B2 and B5. Also niacin (vitamin B3) content of ostrich meat was found similar to that of buff, while chicken meat contained more of this vitamin. Level of pyridoxine (vitamin B6) in ostrich meat is found twice as high as in buff or in chicken. There is a marked difference in the case of cobalamine (vitamin B12), the content of which was over 10 times higher than in buff, and even more when compared to chicken. Ostrich meat as a source of B group vitamins is generally comparable to buff, with a much higher level of vitamins B6 and B12. Another important factor found in meat is vitamin E, considered one of the most effective natural antioxidants mg/100 g) or chicken (77 mg/100 g) would be advantageous for people who have to consume a low sodium diet, for example those suffering from hypertension. Compared to other species ostrich meat is more similar to buff than to chicken meat. Vitamin E is highest in ostrich meat (9.1 mg/100 g), followed by chicken meat (7.5 mg/100 g) and buff (6.2 mg/100 g).

Conclusion

Ostrich meat is a niche product characterized by a low intramuscular fat content, favorable fatty acids profile ratios and high content of iron and vitamin E. The lack of a culinary tradition and relatively high price are reasons for which ostrich meat will not replace buff, pork or chicken as a staple meat in many countries. It may however as a high quality product, be a valuable supplement of human diet. (Dr. Kedar Karki is the Veterinary Consultant Health Management Ostrich, Nepal. His email: Karkikedar96@gmail.com).

7. NAVS NEWS

7.1: 14th NAVS Convocation-cum-Conference on Anti-Microbial Resistance in Livestock Health and Production

National Academy of Veterinary Sciences (NAVS), ICAR – Indian Veterinary Research Institute (IVRI), Izatnagar and Animal Nutrition Association (ANA), India, organized the XIV NAVS convocation-cum-conference on **Antimicrobial Resistance in Livestock Health and Production** on 28 October, 2015 at ICAR-IVRI, Izatnagar. This was a great occasion to mark NAVS Convocation, completion of 125 years of research at IVRI and significant contributions made by Animal Nutrition Association, which is one of the member organizations of World Association of Animal Production (WAAP), Rome, in the field of animal health and production. A large number of dignitaries and doyens of animal and veterinary sciences graced the occasion, presented lead papers and participated in various discussions on the topic. *Regrettably, however, the anticipated report & recommendations of the Conference have not yet been received.*

The following were awarded the Fellowships and Membership of the National Academy of Veterinary Sciences (India) at the Convocation Ceremony:

FELLOWS

1. Dr. Kerekoppa Ramesha

Principal Scientist & I/c Dairy Production, National Dairy Research Institute, Southern Regional Station, Adugodi, BANGALURU- kpragb@gmail.com; M: 9916499636

2. Dr. Minakshi

Prof. & Head, Deptt. of Animal Biotechnology, Lala Lajpat Rai University of Veterinary and Animal Sciences (LUVAS), Hisar, 125004, Haryana; minakshi.abt@gmail.com; M: 9992923330

3. Dr. Baldev Raj Gulati

Principal Scientist, National Research Centre on Equines Sirsa Road, Hisar-125001, Haryana brgulati@gmail.com; Tel:01662-275787 (Off.), 01662-243052 (Res.)M: 094166-50040

4. Dr. Sitangsu Mohan Deb

Director, ICAR-National Research Centre on Yak, P.O.- Dirang, Dist- West Kameng, Arunachal Pradesh, Pin- 790101; sm_deb@yahoo.com; Tel: Mobile: 8729922247, 9401474242; 3780-244459, 3780-200075 (Off.) ; 3780-242205, 3780-200310 (Res.)

MEMBER

1. Dr Sunit Kumar Mukhopadhyay,

Prof. & Hod, Deptt. of Veterinary Pathology, West Bengal Univ. of Animal & Fishery Sciences, Kshudiram Bose Sarani, Kolkata-700037; skmpath@gmail.com 033-25569234 (O) M: 09433036799

7.2: 15th NAVS Convocation-cum-Conference

The 15th NAVS Convocation-cum-Conference is likely to be held in October 2016 at Khalsa Veterinary College, Amritsar, Punjab.

8. NATIONAL & INTERNATIONAL VETERINARY NEWS

8.1: 5th Convocation of DUVASU held at Mathura



The 5th Convocation of U.P. Pandit Deen Dayal Upadhyaya Pashu Chikitsa Vigyan Vishwavidyalaya Evam Go Anusandhan Sansthan (DUVASU), Mathura was organized on 17th Nov, 2015. Hon'ble Governor of Uttar Pradesh and the Chancellor of the University Shri Ram Naik Ji presided over the function. Prof. M.L. Madan, Former DDG (A.S.) ICAR, New Delhi and Former Vice Chancellor PDKV, Akola and DUVASU, Mathura was the Chief Guest of the occasion and graced the function. In the convocation, Hon'ble Chancellor has conferred Honoris causa degree Doctor of Science to Prof. A.K. Srivastva, Director NDRI, Karnal and Prof. K.M.L. Pathak DDG (A.S.) ICAR, New Delhi for their excellent contribution in the field of Veterinary Science and Animal Husbandry. Beside this, Hon'ble Chancellor conferred degrees to the 89 students. Out of these, 3 students received their Ph.D. degree, 18 students received their M.V.Sc. degree, 67 students their B.V.Sc. & A.H. degree and 1 student received MSc. Degree in Biotechnology. Nine students received different medals on the basis of excellent performance in academics and extracurricular activities. Hon'ble Governor and the Chancellor of the university congratulated the degree recipients and medal winner students. The Chief Guest of the occasion, Prof. M.L. Madan delivered the Convocation address.

8.2: IDA Holds the 44th Dairy Industry Conference at Karnal

A three-day Dairy Industry Conference (DIC) was held at ICAR-National Dairy Research Institute (NDRI), Karnal from 18th to 20th February 2016 on the theme “**Make in India: Dairying 2030**”. The Conference was inaugurated by Shri T. Nanda Kumar, Chairman, National Dairy Development Board (NDDB), Anand. Shri R.S. Sodhi, Managing Director, Gujarat Cooperative Milk Marketing Federation (popularly known as Amul), Anand and Dr. Harjinder

Singh, Distinguished Professor & Director Massey Institute of Food Science & Technology, New Zealand were the Guests of Honour. Dr. N.R. Bhasin, President of the Indian Dairy Association (IDA), presided over the inaugural session. Important dignitaries present at the occasion included Prof. Paul McSweeney, Professor in Food Chemistry in the School of Food and Nutritional Sciences, University of Cork, Ireland; Dr. Manohar Garg, University of New Castle, Australia, Dr. R.S. Khanna, Vice-Chairman, Indian Dairy Association (North Zone); Dr. R.K. Malik, Joint Director (Research) NDRI; and Dr. R.R.B. Singh, Joint Director (Academics) NDRI.



In his address, Dr. Bhasin enumerated the activities of IDA undertaken to achieve the main objective of the association to work for the advancement of dairy science, industry, farming, animal husbandry and to promote dairying as a part of Animal Husbandry activity, for the benefit of livestock and agricultural farmers.

In the unavoidable absence of Dr. A.K. Srivastava, Director and Vice Chancellor, NDRI, his welcome address was read out by Dr. R.S. Khanna, Vice Chairman, IDA(NZ). He stated that as a corollary to the national mission announced by Hon'ble Prime Ministers of India, the theme of the Conference had been very aptly chosen as **“Make in India: Dairying 2030”**. This would give impetus to local manufacturing of equipments and machineries while adhering to quality standards. Besides, the conference would give an opportunity for popularization of indigenous dairy products as well as healthy and designer foods. Continuous increased demand for milk and milk products will generate more jobs in the dairy sector and will have a favourable impact on improving the income of dairy farmers and empowering women. Dr. R.K. Malik, Joint Director (Research) gave details of NDRI's activities in the field of dairying and listed the achievements of the institute in breed improvement, novel animal feeding strategies and advances made in research on functional foods and development of diagnostic kits etc etc. Shri Nanda Kumar stated that as our economy was growing at 7-8%, the dairy sector was bound to grow. The driving force behind this was urbanization which would propel the demand for processed milk. Shri Sodhi said that by 2050, about 50% of Indian population would start living in urban areas as compared to the present 30%. The challenge at that time would be to feed such a huge population living in cities with less manpower and low-productive animals. He listed the major challenges faced by dairying in India paid rich tributes to Dr. Verghese Kurien, Father of White Revolution in India who not only made India self-reliant but also number one milk producing nation of the

world. Prof. McSweeney, an expert in Cheese Science said there was huge potential for the growth of cheese industry in India as the urban population was rising. He said that the present growth rate of cheese industry in India was 15% per year which was primarily driven by young demography and growing urban middle class. As the 80% of the cheese consumed in India was processed cheese, there is huge opportunity for the development of cheese industry in other cheese varieties.

During the Conference, Dr S. Ayyappan Secretary, DARE & DG, ICAR, delivered Dr. Verghese Kurien Memorial Oration – 2016, inaugurated the newly established National Referral Center for Milk Quality & Safety and interacted with NDRI Scientists. The conference was attended by more than 2500 delegates including a large number of dairy farmers from the country and about 50 delegates from various countries including USA, Russia, UK, Ireland, Croatia, Australia, New Zealand etc. Outstanding rural women entrepreneurs who contributed in the field of dairying were also felicitated by the Chief Guest at the Inaugural function besides those felicitated with Dr. V. Kurien Award and Fellowship Awards. An International Trade Fair on dairy farming, processing, packaging, distribution & products being organized on the side lines of dairy industry conference. In this trade fair, exhibits from 200 companies around the globe are exhibiting their products. In this exhibition, there is a live demonstration of packaging machine and analytical dairy equipments.

8.3: 24th Annual Conference of the Society of Animal Physiologists of India

The 24th Annual Conference of Society of Animal Physiologists of India & National Symposium on "Physiological Approaches for Development of Climate Resilient Livestock Farming" was held on 21st & 22nd January 2016 at College of Veterinary Science, of Assam Agricultural University Khanapara, Guwahati. It was a well organized event and was attended among others by the past & present DDG-AS, ADG-ANP of ICAR, New Delhi, Director NDRI Karnal, Director DBT Government of India New Delhi, VC-AAU, Guwahati, Ex VC, DUVASU Mathura, Directors of several ICAR Institutes, Scientists from several developed and developing countries. Several quality presentations were made by the participants in the five technical sessions. Dr. Jagdish Mittal, who was made a Fellow of the Society of Animal Physiologists of India for his outstanding contributions in field of Animal Physiology, chaired a session on "Poultry, Fish and Wildlife Physiology" at this national symposium in which young scientists made praiseworthy presentations on Ducks, Japanese Quills and Poultry production in extreme climatic conditions. (*Source: A post on a social networking site*).

8.4: Punjab holds 8th Livestock Championship & Expo at Muktsar

Punjab's 8th Livestock Championship & Expo was held at Muktsar from 8-12 Jan 2016. Prof. M.P. Yadav, Former President NAVS, was the Guest of Honour & Chairperson at the session on 'Indigenous Dairy Cattle' on 12.01.2016. He highlighted the need for promoting our own indigenous cattle milch breeds such as Sahiwal, Red Sindhi, Gir and Rathi as these breeds are well adapted to our climatic conditions and scarce nutritional inputs along with their natural advantage of having A₂ allele of Beta casein protein, vitamin A precursor carotene, CLA and other health friendly properties. Prof. Yadav also participated as Chief Guest during the technical session on 'Equine Management' on 11.01.2016. He emphasized before the participating farmers that adequate knowledge and learning are must for any successful venture including

livestock and animal husbandry; hence they should not hesitate to ask questions to the experts to remove their doubts, if any.

Incidentally, **Professor M.P. Yadav** also delivered a guest lecture on 17th January 2016 at a seminar on “Advances in Clinical Management of Farm and Companion Animals” at Bihar Veterinary College, Patna. He shared his views and experiences on advance technologies available/needed in our Veterinary Universities/Colleges/Clinics/Hospitals, namely, imaging techniques, endoscopy, ultrasonography, CT Scan, MRI, Auto Analyser, Penside diagnostic kits, PCR, ELISA, video conferencing and other ICT applications etc.

8.5: Foot-and-mouth disease returns to IVRI, alert sounded

Priyangi Agarwal of TNN reported on Jan 11, 2016, that after a gap of six years, the dreaded foot-and-mouth disease virus (FMDV) has again infected cows at the premier Indian Veterinary Research Institute (IVRI). Of the six samples, two have already turned out to be positive. Authorities at the institute have declared an alert and a team of 35 doctors have been set up to monitor the situation. There are 700 heads of cattle in the dairy and there is a risk that the virus might spread to a large number of them. Besides, institute authorities have written to the state government to adopt precautionary measures in nearby villages.

In 2009, FMDV had affected a large number of cattle at IVRI, killing scores of them. According to Dr. B.M. Arora, a retired scientist from IVRI, FMDV is a severe and contagious viral disease infecting livestock and is fatal for young animals. He added that as FMDV is highly contagious, humans and even antelopes in IVRI like deer and blackbucks are susceptible to it. Dr. Triveni Dutt, co-ordinator of livestock production management (LPM) at IVRI has stated that there has been no fatality and the situation was under control. "We have written to animal husbandry department of state government for taking precautionary measures in the native villages of the 60 contractual employees who work in the dairy, as there are chances that FMDV may be transmitted via them to the cattle in their native villages. All the preventive measures, including vaccination of bovines, are being adopted," Dutt added. Dr. Bhoj Raj Singh, a veterinary scientist conversant with IVRI has commented that FMD Virus had not returned but was already there. He casts doubts on the efficacy of vaccine being used to control.

8.6: World Veterinary Association expands online courses on Veterinary Immunology and Vaccinology

A new introductory course, Introduction to Principles of Veterinary Vaccinology, has been added to the courses offered by the Center for Food Security and Public Health (CFSPH) at the Iowa State University College of Veterinary Medicine. This new online course introduces how veterinary vaccines work. <http://www.cfsph.iastate.edu/Immunology/>

8.7: Genetic selection for cattle health

The use of DNA testing to predict the genetic merit of dairy and beef cattle has become commonplace since the introduction of the 50,000 single nucleotide polymorphism chip in 2009. The dairy industry rapidly adopted the technology, and as of 2015, the dairy industry is on track to have run genomic tests on over 1 million animals. **(Source: Bovine Veterinarian Animal Health Center: <editor-Bovine-Veterinarian@vancenewsletters.com>)**

8.8: News from LUVAS, Hisar

8.8.1: LUVAS Holds its First Convocation

On January 28, 2016 the 151th birth anniversary of Lala Lajpat Rai, the legendary freedom fighter, Lala Lajpat Rai University of Veterinary and Animal Sciences, Hisar (LUVAS) organized its first convocation in Indira Gandhi Auditorium of Chaudhary Charan Singh Haryana Agricultural University, Hisar. The Union Agriculture and Farmer Welfare Minister, Sh. Radha Mohan Singh was the Chief Guest, whereas the Governor and Chancellor Prof. Kaptan Singh Solanki presided over the program, the Agriculture and Animal Husbandry Minister of Haryana Sh. Om Parkash Dhankar and Chief Parliamentary Secretary Dr Kamal Gupta were present as Guests of Honour. A total of 316 students were awarded degrees and 21 were bestowed with gold medals for excellence in their respective areas.



In his convocation address, the Chief Guest Sh. Radha Mohan Singh, Union Agriculture and Farmer Welfare Minister, said that the graduation holds an important place in every person's life and congratulated the graduating scholars who received their degrees. Education at graduation level is such a milestone which opens the gateway to the higher education and brighter future. He exhorted the students to have a single goal in life: to obtain knowledge regularly by working hard with determination for achieving their goals. He applauded the Lala Lajpat Rai University of Veterinary and Animal Sciences for its academic achievements, high standards of research and for providing excellent services to the livestock owners of the state. He congratulated Maj Gen Shri Kant (Retd), the first regular Vice Chancellor of the University for all these achievements. He made special mention of some of the achievements of the University such as new cow breed- Hardhenu, Signing of agreements with various national and International Institutes, and patents awarded to various scientific techniques. He expressed happiness that Haryana had become the first state free from Foot and Mouth disease due to joint efforts made by the University and the State Government.

Sh O.P Dhankar, Minister of Agriculture, Govt. of Haryana in his address remembered the services of Lala Lajpat Rai for the nation and said that he will always remain a source of inspiration for coming generation to come. He appealed to graduates to improve the condition of cattle by increasing their number and productivity and said that year 2016 was the golden jubilee year for Haryana State and we should try to tackle some of the challenges related to animal health and production during this year.



In his blessings to the new graduates Prof. Kaptan Singh Solanki Governor and Chancellor of LUVAS congratulated all the students and their parents. He congratulated LUVAS for organizing such a nice function on the occasion of first convocation. He stressed upon the need of veterinarians for upliftment of the society. Further he said that as the fertile land holding is decreasing day by day therefore the animal husbandry is becoming more important in our life. He said that though we are number one in milk production in the world, Yet there are many more chances to improve it further He advised the graduates to be better human being and to remember five things starting with G in life, which includes Gaye, Gita, Ganga, Gaytri Mantra and Ganesh.

8.8.2: VCI Team Visits LUVAS

A three member's team of Veterinary Council of India (VCI) visited LUVAS from February 9-11. Dr. Vaishwaraj, Prof. & Head, Bidar Veterinary University, Karnataka, Dr. M.R. Sashendranath Veterinary University, Kerala and Dr. R.P. Pandey, DUVASU, Mathura were members of the team. During the visit, team visited different departments of LUVAS including Dept. Of Vety. Anatomy, Vety. Public Health & Epidemiology, Vety. Microbiology, Livestock Products Technology, Animal Breeding and Animal Biotechnology etc. In the departments, the team inspected the facilities available for teaching, research, availability of technical manpower including the teachers, space for conducting practical and various types of instruments available. Members of the team also visited University animal farm and Teaching Veterinary Clinical Complex and took information from students and animal owners present regarding the facilities being extended to them. Maj Gen (Dr.) Shri Kant Vice-Chancellor briefed the team regarding the current research schemes and teaching activities of the university and some of future plans including admission of student to the College of Dairy Science and Technology and appointment of new faculty members in the coming session.

8.8.3: Training Programme on Postmortem Techniques

Department of Veterinary Pathology, LUVAS conducted a training programme on “Postmortem Examination, Dispatch of Specimen and Pathological Techniques with Special Reference to Immunological Diseases” from February 25-29, 2016. A total of twenty veterinarians of State Animal Husbandry Department, Haryana attended this training during which they were updated about the latest diagnostics techniques, especially regarding immunological diseases in animals. In the valedictory function held on February 29, 2016, Maj Gen (Dr.) Shri Kant, Vice-Chancellor, Chief Guest said that there is need to do postmortem correctly to identify the diseases precisely so that measures to control these diseases can be planned. He called upon the veterinarians to update their knowledge regularly so as to treat the animals. On this occasion Dr. Ravinder Sharma, Director of Research, LUVAS stressed upon the need for correct and modern techniques of postmortem. Dr. Gurdial Singh, Dean, COVS said that state animal husbandry department should modernize its laboratory facilities at district level. He further informed that Veterinary Council of India plans to start a refresher course which will be essential for all the veterinarians working in the field.

8.8.4: Centre of Advanced Faculty Training (CAFT) in Veterinary Microbiology, LUVAS

Department of Veterinary Microbiology, LUVAS conducted 28th ICAR Centre of Advanced Faculty Training on “Development of Validated Diagnostic Assays and Accreditation of Diagnostic Laboratories” which was inaugurated on February 3, 2016 by Dr. Ravindra Sharma, Director of Research, LUVAS, Hisar. In the valedictory function held on 23 February 2016, Maj Gen (Dr) Shri Kant, Vice-Chancellor, Chief Guest gave away the certificates to the 21 trainees (3 female and 18 male participants) from 8 different states of India viz. Tamil Nadu (3), Uttar Pradesh (2), Maharashtra (1), Rajasthan (3), Telangana (1), Gujarat (7), Bihar (2) and Haryana (2) for successfully completing the course. He emphasized the need of setting up of accredited veterinary laboratories in the country. Dr. Gurdial Singh, Dean, College of Veterinary Sciences congratulated the Dept. of Veterinary Microbiology for conducting a course on validation of assays and accreditation of labs. Prof. & Head-cum-Course Director, Dr. Sanjay Kapoor, informed that ICAR has recognized the Department of Veterinary Microbiology, LUVAS as the Centre of Advanced Faculty Training since 1995 considering the outstanding contribution and pioneering work by the faculty in the field of bacteriology, virology, mycology and immunology.

8.8.5: Renowned Virologist Prof. Peter Martens visits LUVAS

Prof. Peter Mertens, a world renowned virologist in the field of Arbovirus research, who is currently the research Leader of Arbovirus Molecular Research Group and Head of The Pirbright Institute’s Vector borne viral disease programme visited LUVAS and delivered a talk on “Virus Variation, Taxonomy, Nomenclature and Classification” on February 19, 2016. He discussed the details about need of classification, systems of nomenclature for new viruses including Baltimore classification. He also informed regarding the International Committee for nomenclature of new viruses and the processes how new viruses are required to be identified. He stressed that all these processes are essential from research point of view as well as to study epidemiology of different new viruses being evolved. All these findings ultimately help in devising effective vaccination and preventive measures to control such viruses. He discussed in detail on the diseases caused by Bluetongue virus which has caused high mortality in sheep in the past in Europe as well as in India. He reported different serotypes of this virus from his

laboratory and wide variations among these serotypes. He further informed about research going on to develop effective vaccines against this disease.



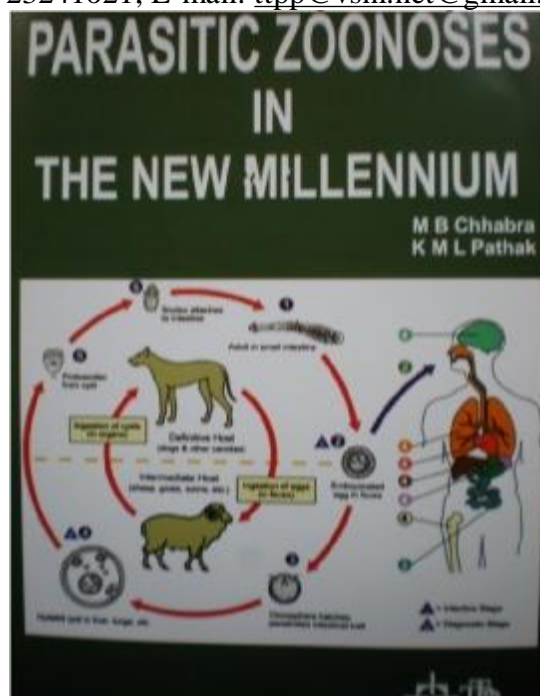
On this occasion Maj Gen (Dr) Shri Kant Vice-Chancellor , LUVAS expressed the hope that MOU with The Pirbright Institute in place, there will be exchange of scientists and students between the institutes and also more collaborated research projects on animal health will be started. Large numbers of students as well as faculty members of LUVAS and of the Institutes including CIRB, NRCE Hisar were also present in this deliberation.

8.9: SOME NEW BOOKS

8.9.1: PARASITIC ZONOSSES IN THE NEW MILLENNIUM

Authors: M.B. Chhabra and KML Pathak;

273 Pages, figures, color plates, tables; ISBN 81-7019-519-1 (India) Price Rs. 2195.00; ISBN 1-55528-575-6 (USA) Price \$ 70.00; Published by Today and Tomorrow's Printers and Publishers, 4436/7, Ansari Road, New Delhi - 110002 (India); Fax: 011- 23242621; Phones: 011- 23242621, 23241021; E-mail: tpp@vsnl.net@gmail.com



Parasitic zoonoses are of global concern and are receiving increasing attention. The title of the book refers to its special feature i.e. that most of the literature cited relates to the post-2000 period. The book is intended to provide enhanced fundamentals and updated information on this rapidly evolving subject for both medical and veterinary professionals as parasitic diseases that are transmitted between humans and animals represent a shared threat. However, there often are some knowledge gaps among those trained in human health care regarding the veterinary component of such diseases and vice versa among veterinarians. The book been designed for universal readership but those in developing countries may find it more useful.

The authors are two senior specialists who have the requisite competence, experience and track record in the area. Corresponding author's e-mail: chhabra.manmohan@gmail.com.

8.9.2: Monograph on Microbiology of Drinking Water by Mahendra Pal

Publishers: LAP Lambert Academic Publishing, Saarbruchen, Germany, ISBN No: 978-3-659-53825-4;

Year of publication: 2014; Price: Euro 49.50

Author's email: palmahendra2@gmail.com

8.9.3: The Complete Book on Waste Treatment Technologies by Mahendra Pal

Publishers: Niir Project Consultancy Services, 106-E, Kamla Nagar, Delhi-110007, India

ISBN No: 978-81039-67-0; Year of publication: 2015; Price: Rs.1675 /- , US Dollar 150/-

Author's email: palmahendra2@gmail.com

40 years of marriage



A married couple in their early 60s are celebrating their 40th wedding anniversary in a quiet, romantic little restaurant.



Suddenly, a tiny yet beautiful fairy appeared on their table. She said, 'For being such an exemplary married couple and for being loving to each other for all this time, I will grant you each a wish.'



The wife answered, 'Oh, I want to travel around the world with my darling husband.'



The fairy waved her magic wand and - poof! - two tickets for the Queen Mary II appeared in her hands.



The husband thought for a moment: 'Well, this is all very romantic, but an opportunity like this will never come again. I'm sorry my love, but my wish is to have a wife 30 years younger than me.'



The wife, and the fairy, were deeply disappointed, but a wish is a wish.!



So the fairy waved her magic wand and poof!...



The husband became 92 years old.



The moral of this story: Men who are ungrateful should remember fairies are female.....

9. SCIENCE, HEALTH & SOCIETY

9.1: Professor H. Deep Saini to be the Vice-Chancellor in Canada

“PAU Alumni Australia” (FB Page) has proudly shared the news that the current Vice-President of the University of Toronto, Professor H. Deep Saini, has been appointed as the next Vice-Chancellor of the University of Canberra. University of Toronto is Canada's top-ranked, largest and most research-intensive university. Speaking from Toronto the Indian-born Professor Saini said the opportunity to lead a young and progressive university had been impossible to turn down. Professor Saini will take up the position on September 1 this year. Professor H. Deep Saini, is an alumni of Punjab Agricultural University (PAU), Ludhiana, India, where he completed his Undergraduate and asters degrees. He holds a doctorate in plant physiology from the University of Adelaide.

9.2: DEVELOPMENT AT A GLANCE

Science endeavored to study life in its minutest form. It rewarded the community immensely in terms of ease, efficiency and comfort (EEC). Specialties and super-specialties provided insurmountable information and skill that support service sector. But these gains at times encouraged (wo)man to expect more ie. expectation grows from need to want or at times to greed. Technologies that enriched individual life and reduced death rate made world more crowded. There is a shift to longevity increasing the ratio of older people (demanding geriatric support). Younger generation grow in a more enriched environment are endowed with better comprehension and increased neural impulse. Information Technology/ Information communication Technology (IT/ ICT) was effectively used to reach service to more people efficiently and in time. But (wo)man failed to recognize the long term impact of the comforts of new life style on the natural resources and their health inducing potential (no struggle no survival skill?). Modern science gained control over many bacterial and parasitic infections/ infestations and achieved good health & long life. But newer diseases caused by virus, viroids, prions and residues emerged. Though good “health care” provided longevity of life in older generation, the fertility rate of the younger generation is on the decline. Infant mortality due to respiratory and water borne diseases are on the increase (lack of quality air and drinking water?). Allergy, asthma, sun burn etc are being increasingly reported. Longevity of life also enhanced the need for ‘geriatric care’ and the enhanced financial and social obligation associated social security. Same is true for animals. Cattle bred without due consideration to their original ecosystem are mostly uncomfortable in the new biome and demand better bio-safety which the small holder struggling in his limited environment and resource could not provide. OBSESSIVE IDEA OF TRADE or individual profiteering (and urbanization) that have crept into the mindset of planners and public men make economic development precedes community development. [commodity concept sidelining community concept]. Undernourishment or obesity negatively affects people’s health, productivity, sense of hope and overall well-being. Lack of Nutrition (not belly filling food grain) can stunt growth, slow thinking, energy need, hinder foetal development and contribute to mental retardation. (Dr. Rama Kumar V’s on a social networking site -- ‘Veterinary Educationists’ Forum’).

9.3: World's 1st quick-action rabies drug set for India launch

The first fast-acting anti-rabies drug of the world, which instantly deactivates the rabies virus and provides immediate protection in severe dog bite cases, is set for a launch in India this year. The drug, rabies human monoclonal antibody (RMAB), has been developed by Pune-based Serum Institute of India (SII) and US-based Mass Biologics of the University of Massachusetts Medical School. It has been found safe and effective during various phases of human clinical trials spanning nine years in India and abroad. A monoclonal antibody for rabies can be produced in large quantities and at much lower costs than blood-derived products. Since they are not derived from blood serum, they have none of the safety issues associated with human blood products.

Rabies infection can be prevented to a great extent using a rabies vaccine and human rabies immunoglobulins (hRIG) soon after exposure. However, hRIG, which is derived from human blood, is often not available in countries like India and also quite expensive. Presently, the horse-derived equine rabies immunoglobulin (eRIG) is used in many parts of the world. But equine serum has several side effects." (Source: Serum Institute of India, Pune)

9.4: Cancer has witnessed a 5% increase in its prevalence rate between 2012 and 2014 with the number of new cases doubling between 1990 and 2013, says government data.

Cancer has witnessed a 5% increase in its prevalence rate between 2012 and 2014 with the number of new cases doubling between 1990 and 2013, says government data.

Globally, cancer is already the second-leading cause of death after cardiovascular diseases. Proportion of deaths due to cancer around the world increased from 12% in 1990 to 15% in 2013. International estimates show deaths from cancer have increased by 60% in India over last two decades.

"The increase in cancer cases may be attributed to ageing population, unhealthy lifestyles, use of tobacco and tobacco products, unhealthy diet etc," health minister JP Nadda said in the Lok Sabha on Friday. Nadda said the Indian Council of Medical Research (ICMR) is implementing a National Cancer Registry Programme based on 29 population-based and 29 hospital-based registries. (Source: TNN | 27 February 2016, 8:32 AM IST)

9.5: Rising Drug Exports from India: Importers Increase Quality Checks

Switzerland has disclosed that India is the top source for illegally imported medicines confiscated by their customs department. As per the latest data released by the Swiss government, India accounted for 42 per cent of the confiscated medicinal product shipments in 2015. Two thirds of all seized shipments originated in Asian countries, including India. Without identifying the seized products that originated from India, the Swiss government agency for therapeutic products, Swissmedic, said that erectile stimulants accounted for 51 per cent of the confiscated medicinal products. Major product categories that were confiscated also include sleeping tablets and tranquillisers (15 per cent), slimming preparations (13 per cent), medically important, prescription-only medicines (9 per cent), while others were 12 per cent. (<http://health.economictimes.indiatimes.com/news/pharma/india-top-source-for-illicit-medicines-reaching-swiss-shores/51181572>).

The United States Food and Drug Administration (USFDA) said its quality checks are part of surveillance system and the number of inspections has increased in India in view of rising

exports of generic drugs from the country. "Level of exports of generic drugs has grown up dramatically in recent years and correspondingly we have inspected more. When the exports from here grow up there will be more checks because obviously checks are part of approval process," Dy. Commissioner for Global Regulatory Operations and Policy USFDA Howard Sklamberg told reporters here. "They (checks) are part of what we call surveillance system. And when we find something, we take appropriate action," he said. In response to a question on action against big Indian generic pharma companies, Sklamberg said, "We apply same standards of inspecting at all levels like between the licensed drug manufacturing companies and generic drug manufacturing companies. The standards are same across all geographies". The USFDA had taken action against companies like Sun Pharma last year and earlier Ranbaxy among other Indian drug companies. "We have introduced a new act called Food Safety Modernisation Act, and under it instead of just working on regulatory aspects, we work at all level with stakeholders like food manufacturers to exporters who export to the US," he added.
(<http://health.economictimes.indiatimes.com/news/pharma/more-inspections-due-to-rising-drug-imports-from-india-usfda/51176020>)

9.6: List of Foods that have Healthy Fats

The age old myth of eating fat can make you fat doesn't stand true. It is pretty clear that the myth originated from the fact that fatty foods were high on calories and calories could make you fat. But calories aren't the only reason you gain weight. That is decided by the type and amount of food and sugar you consume. Healthy fat foods help your body absorb certain vital vitamins like A, D, E and K and also aids fat burn, two vital reasons to make it part of your daily diet. These 5 food sources of saturated or good fats do more good than harm, here's why you should consume them.

1. Coconut Oil:

A rich source of saturated fats, it can boost metabolism, reduce heart disease risk and improve HDL levels.

2. Nuts:

Apart from healthy fats they are a good source of protein and help stabilize blood sugar levels. Studies show that consuming a handful of nuts a day can reduce obesity and weight gain risk.

3. Avocados:

Reduces skin ageing, heart disease, stroke risk and improves immunity.

4. Seeds:

Pumpkin, Chia, Flax and Sunflower seeds are all filled with nutrients like magnesium, copper and iron. They also help boost digestion.

5. Olive Oil:

Topping your salads with this can reduce blood pressure, prevent cancer and reduce chances of weight gain.

9.7: World's first non-invasive test for diabetes coming up in Medak, Hyderabad

DiabetOmics, developing world's first non-invasive test for diabetes, sets up manufacturing facility near Hyderabad with Rs.30-crore investment.

(<http://health.economictimes.indiatimes.com/news/diagnostics/worlds-first-non-invasive-test-for-diabetes-coming-up-in-medak-hyderabad/51091420>)

9.8: Best Time to Check Blood Pressure

Regularly checking your blood pressure may not be enough to find and prevent problems brought on by high blood pressure, say researchers out of Japan recently. Strangely, getting the timing wrong could be deadly, the study shows. Recently, scientists at Jichi Medical University in Japan discovered that missing a critical blood pressure reading may spell trouble, and it all has to do with the timing of the readings. Many people who are managing their blood pressure, or trying to get their higher readings down, know that it's important to check it regularly.

Scientists have said for years that the best time to check is in the morning because the resting readings are the most accurate. But that's not the only reason, according to the scientists from Jichi Medical University in Japan. In their study, they found that for the population of participants whose blood pressure tended to be higher in the morning than at other times of day, NOT finding the high blood pressure problem for this group proved to be deadly. Those people were at a dramatically higher risk of stroke and heart attack than their counterparts whose blood pressure was high all day.

There wasn't a difference in risk factor for those whose blood pressure was higher in the evenings. It is the morning spike that was the stand-out factor.

Checking blood pressure at the same time every day is best, and especially if you can do it morning, noon, and before bed. Then, once you have consistent readings and a solid management plan, go to morning-only readings. (<http://blueheronhealthnews.com/site/2016/01/03/best-time-to-check-blood-pressure-this-will-safe-your-life/?tt=newsletter>)

9.9: Can Dogs Be Allergic to Humans?

A dog can definitely have an allergy to human dander. In fact, it's probably more common than you think. Many kinds of allergies are very common in dogs. These allergies usually manifest as skin problems. Owners don't always find out what their dogs are actually allergic to. Vets often treat dogs symptomatically when it's a not yet a chronic skin problem (or when owners do not wish to have allergy testing done).

Some dogs respond to the treatment of symptoms, so we don't necessarily need to find out what they are allergic to. It's fair to assume that there are many dogs out there with human allergies, they just don't get diagnosed. In reality, many dogs with skin issues are allergic to multiple substances.

When humans are allergic to dogs, they may sneeze and sniffle. Others may break out in hives. When dogs are allergic to human dander (and many other things), they tend to have gradually progressive skin issues. The reaction does not usually happen all at once (the way people start sneezing or breaking out). Instead, it usually starts with mild skin irritation and itching. Over time, the skin irritation gets worse, the itching gets worse and the scratching further irritates the skin. Irritation may cause the skin to become infected (bacterial or fungal/yeast). It's kind of a vicious cycle.

Stories of dogs allergic to humans have even been in the news.

Is My Dog Allergic to Me?

For starters, if your dog is itchy or has an apparent skin problem, go to your veterinarian.

Once the immediate skin issue is diagnosed and treated, your vet can talk to you about options. If an allergy is suspected, your allergic dog might have multiple allergies. Allergy testing is the

only way to know for sure what your dog is allergic to. Some vets will offer a blood test to check for allergies.

However, veterinary dermatologists agree that blood testing for allergies simply is not accurate. Skin testing (intradermal allergy testing) for allergies is the way to go. With skin testing, the tiny, controlled allergic reactions can be seen in real time and are quite obvious to the trained eye.

Can Dogs With Human Allergies Be Treated?

There is hope for dogs allergic to humans, and it's not living in isolation from humans! Once a definitive diagnosis is made, a customized allergy serum will be developed. This serum is then given to the dog as injections over a period of time (as prescribed by the vet). Other medications may be needed, and management of allergies is often a lifelong process. However, many dogs can live a comfortable, happy life despite these allergies.

(<http://dogs.about.com/od/caninediseases/fl/Can-Dogs-Be-Allergic-to->

People.htm?utm_content=6176528&utm_medium=email&utm_source=cn_nl&utm_campaign=p
etl&utm_term=)

9.10: A Life Saver in Earthquakes

Is this ever an eye opener? Directly opposite of what we've been taught over the years! I can remember in school being told to, "duck and cover" or stand in a doorway during an earthquake. This guy's findings are absolutely amazing. I hope we all remember his survival method if we are ever in an earthquake!!! What follows is an extract from Doug Copp's article on the: "Triangle of Life" (A life saver in earthquakes)

My name is Doug Copp. I am the Rescue Chief and Disaster Manager of the American Rescue Team International (ARTI), the world's most experienced rescue team. The information in this article will save lives in an earthquake.

I have crawled inside 875 collapsed buildings, worked with rescue teams from 60 countries, founded rescue teams in several countries, and I am a member of many rescue teams from many countries...

I was the United Nations expert in Disaster Mitigation for two years. I have worked at every major disaster in the world since 1985, except for simultaneous disasters.

The first building I ever crawled inside of was a school in Mexico City during the 1985 earthquake. Every child was under its desk. Every child was crushed to the thickness of their bones. They could have survived by lying down next to their desks in the aisles. It was obscene, unnecessary and I wondered why the children were not in the aisles. I didn't at the time know that the children were told to hide under something.

Simply stated, when buildings collapse, the weight of the ceilings falling upon the objects or furniture inside crushes these objects, leaving a space or void next to them. This space is what I call the "triangle of life".

The larger the object, the stronger, the less it will compact. The less the object compacts, the larger the void, the greater the probability that the person who is using this void for safety will not be injured. The next time you watch collapsed buildings, on television, count the "triangles" you see formed. They are everywhere. It is the most common shape, you will see, in a collapsed building.

Tips for Earthquake Safety

1) Most everyone who simply "ducks and covers" WHEN BUILDINGS COLLAPSE are crushed to death. People who get under objects, like desks or cars, are crushed.

2) Cats, dogs and babies often naturally curl up in the fetal position. You should too in an earthquake... It is a natural safety/survival instinct. You can survive in a smaller void. Get next to an object, next to a sofa, next to a large bulky object that will compress slightly but leave a void next to it.

3) Wooden buildings are the safest type of construction to be in during an earthquake. Wood is flexible and moves with the force of the earthquake. If the wooden building does collapse, large survival voids are created. Also, the wooden building has less concentrated, crushing weight. Brick buildings will break into individual bricks. Bricks will cause many injuries but less squashed bodies than concrete slabs.

4) If you are in bed during the night and an earthquake occurs, simply roll off the bed. A safe void will exist around the bed. Hotels can achieve a much greater survival rate in earthquakes, simply by posting a sign on The back of the door of every room telling occupants to lie down on the floor, next to the bottom of the bed during an earthquake.

5) If an earthquake happens and you cannot easily escape by getting out the door or window, then lie down and curl up in the fetal position next to a sofa, or large chair.

6) Most everyone who gets under a doorway when buildings collapse is killed. How? If you stand under a doorway and the doorjamb falls forward or backward you will be crushed by the ceiling above. If the door jam falls sideways you will be cut in half by the doorway. In either case, you will be killed!

7) Never go to the stairs. The stairs have a different "moment of frequency" (they swing separately from the main part of the building). The stairs and remainder of the building continuously bump into each other until structural failure of the stairs takes place. The people who get on stairs before they fail are chopped up by the stair treads - horribly mutilated. Even if the building doesn't collapse, stay away from the stairs. The stairs are a likely part of the building to be damaged. Even if the stairs are not collapsed by the earthquake, they may collapse later when overloaded by fleeing people. They should always be checked for safety, even when the rest of the building is not damaged.

8) Get near the outer walls of buildings or outside of them if possible - It is much better to be near the outside of the building rather than the interior. The farther inside you are from the outside perimeter of the building the greater the probability that your escape route will be blocked.

9) People inside of their vehicles are crushed when the road above falls in an earthquake and crushes their vehicles; which is exactly what happened with the slabs between the decks of the Nimitz Freeway... The victims of the San Francisco earthquake all stayed inside of their vehicles. They were all killed. They could have easily survived by getting out and sitting or lying next to their vehicles. Everyone killed would have survived if they had been able to get out of their cars and sit or lie next to them. All the crushed cars had voids 3 feet high next to them, except for the cars that had columns fall directly across them.

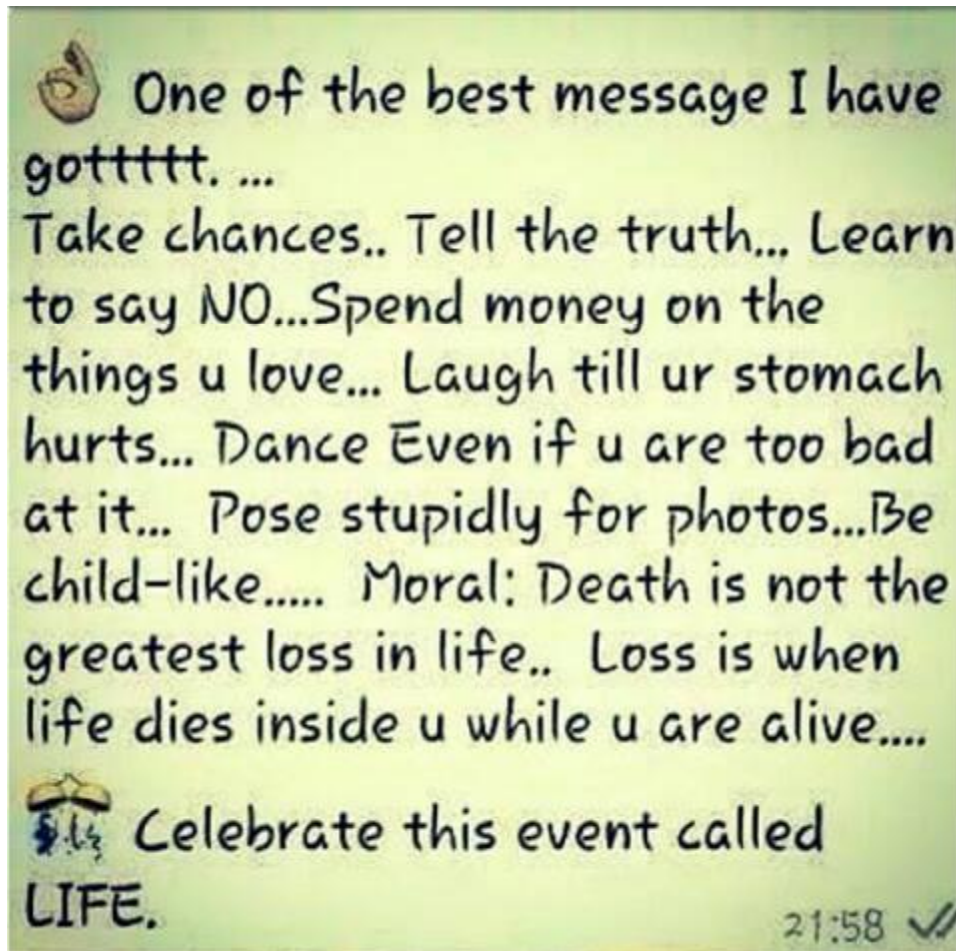
10) I discovered while crawling inside of collapsed newspaper offices and other offices with a lot of paper that paper does not compact. Large voids are found surrounding stacks of paper.

Spread the word and save someone's life... The Entire world is experiencing natural calamities so be prepared! "We are but angels with one wing, it takes two to fly".

In 1996 we made a film, which proved my survival methodology to be correct. The Turkish Federal Government, City of Istanbul, University of Istanbul Case Productions and ARTI cooperated to film this practical, scientific test. We collapsed a school and a home with 20

mannequins inside. Ten mannequins did "duck and cover," and ten mannequins I used in my "triangle of life" survival method. After the simulated earthquake collapse we crawled through the rubble and entered the building to film and document the results. The film, in which I practiced my survival techniques under directly observable, scientific conditions, relevant to building collapse, showed there would have been zero percent survival for those doing duck and cover.

There would likely have been 100 percent survivability for people using my method of the "triangle of life." This film has been seen by millions of viewers on television in Turkey and the rest of Europe, and it was seen in the USA, Canada and Latin America on the TV program Real TV.



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._: International Conference on Livestock Nutrition July 21-22, 2016 Brisbane, Australia. DETAILS: <http://livestocknutrition.conferenceseries.com/>

10._: 3rd International Veterinary Congress August 18-20, 2016 London, UK

DETAILS: <http://www.conferenceseries.com/veterinary-meetings>

10._: 5th Animal Health and Veterinary Medicine Congress September 26-28, 2016 Valencia, Spain. DETAILS: <http://www.conferenceseries.com/veterinary-meetings>

10._: World Veterinary Association Announces One Health Conference

FIRST ANNOUNCEMENT: 2nd GLOBAL CONFERENCE ON ONE HEALTH to take place in Japan on 10 and 11th November 2016. Moving forward from One Health Concept to One Health Approach

10._: 6th Global Veterinary Summit November 14-16, 2016 Atlanta, USA

DETAILS: <http://www.conferenceseries.com/veterinary-meetingsnd>

10._: 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>

10._: 33rd World Veterinary Congress 27 to 31 August 2017, Incheon, Republic of Korea. Details: info@wvc2017korea.com.



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