



GOA VET

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World Veterinary Day Special April 2018



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From President's Desk

It is my great pleasure to present this unique issue GOA VET BULLETIN which is rather first issue of this year as well as first of this newly elected Executive Committee. Indeed I am very happy it is being published on Auspicious occasion of World Veterinary Day of this year. I wish you all a very happy World Veterinary Day. As you all know that World Veterinary Day was created in year 2000 by World Veterinary Association and celebrated on last Saturday of the April month every year to highlight and promote life saving work performed by Veterinarians around the Globe. World Veterinary Day is one day completely dedicated to the lovely people who decided to dedicate their lives to love, health & well being of the animals on this planet. The main goal of the World Veterinary Day is to promote & raise awareness about animal health & welfare. World Veterinary Association selects a different theme every year. The theme of World Veterinary Day for this year is "The Role of Veterinary Profession in Sustainable Development to improve Livelihoods, Food Security & Safety". The importance of Veterinary work to guarantee safe food and healthy livestock and safe & healthy human world population.

I am highly obliged & extremely thankful to Dr. Mahendra Bale, Editor of this Goa Vet Bulletin for honouring my request to release this issue with short notice on this day in spite of his very busy schedule & family engagements. I am very grateful to all contributors and sponsors of this bulletin. I look forward for your active cooperation & participation for taking our Association as well as our Profession at a greater height.

Editorial

It gives me immense pleasure to present before you this Special issue of our Vet Bulletin which is released today, the **WORLD VETERINARY DAY 2018**. My sincere thanks to you all for reposing faith and confidence in me and allowing me to do the job as Editor of this bulletin and I assure you all that I will see that all the bulletins will be released in time and with great content. At the same time let me thank all those who have spared their time and sent articles which made this bulletin the best.

World Veterinary Day was initiated by the **World Veterinary Association (WVA)** in 2000 in order to celebrate the Veterinary profession annually on the last Saturday of April. This event aims to highlight and promote the different facets of the work performed by Veterinarians all over the world and to raise awareness on their contribution to improve animal health and welfare, as well as public health.

Each year, a different topic is selected by the WVA and this year the theme is

"THE ROLE OF VETERINARY PROFESSION IN SUSTAINABLE DEVELOPMENT TO IMPROVE LIVELIHOODS, FOOD SECURITY AND SAFETY"

A large part of the world population lives in rural areas where animals are indispensable for their livelihood and access to food. Many farmers in these areas depend on animals as the main source of income. For numerous households, animals are also the best means to preserve the necessary resources to cope with agricultural crises, to exit poverty, or to help to keep the soil fertile and provide traction for ploughing and transport.

It is estimated that the world population will reach 9.7 billion people by 2050 and the demand for

I take opportunity to appeal you to give your suggestions, advice & so also action plan. It will help us to grow stronger & better. This association will make whole hearted efforts regularly to organize programmes for continuous education of small animals, large animals, management, office procedures etc. You are most welcome to suggest any specific programme to be conducted with resource persons etc.

It's your Association. Come. Be a part of the thought building process. Be part of think tank. Express your views and it will make a difference.

Somebody has rightly said "Until one has loved an animal, a part of one's soul remains unawakened" I conclude by expressing my sincere feeling that "Let our eyes be positive so it will like all people in the world so also let our attitude be positive so that all people in the world will like us".

Thank you so much one & all.

Dr. RAJENDRA H. PRABHUGAONKAR
President

animal protein and by-products will grow respectively . By preventing and controlling animal diseases, Veterinarians play a crucial role in securing sufficient and safe high-quality food, improving the health and welfare of people and animals. They contribute to ensure the existence of sufficient resources for future generations by supporting the development of sustainable, responsible and efficient livestock production systems.

Furthermore , the Veterinary profession is responsible for the control and inspection of animal products at all stages " from farm to fork " to guarantee safe food to the world population . It also positively impacts a wide range of employment fields that deliver services for the benefit of society and all animals.

I wish you all on this World Veterinary Day which is the day of our Veterinarians , lets do lot of service to animals as well as to the people around us in whatever possible ways we can .

Dr. M.A. BALE
Editor

New Executive Committee



Bulletin Release



World Veterinary Day 2018
The role of the Veterinary Profession in Sustainable Development to improve livelihoods, food security and safety
#WVD2018
Saturday 28 April
Actions speak louder than words, show your role!

THE ONLY VETERINARIAN WHO WON THE NOBEL PRIZE



Dr. Peter C. Doherty

The only veterinarian to win a Nobel Prize, Dr. Peter C. Doherty was a state veterinary officer in Australia before embarking on a career in immunology research.

In his book "The Beginner's Guide to Winning the Nobel Prize" and in a recent interview with JAVMA News, Dr. Doherty described his experience with, and the global importance of, scientific discovery.

The Nobel Foundation awarded its 1996 prize in physiology or medicine to Dr. Doherty and Rolf M. Zinkernagel, MD, of Switzerland for their discovery in the early 70s of how T cells recognize virus-infected cells by looking for variants in certain molecules—histocompatibility antigens—on the surface of infected cells.

Since 1988, Dr. Doherty had been a member of the Department of Immunology at St. Jude Children's Research Hospital in Memphis. He now spends most of the year at home in Australia as a professor in the Department of Microbiology and Immunology at the University of Melbourne Faculty of Medicine, Dentistry, and Health Sciences, and he devotes much of his time to writing books about science for a lay audience.

"Life at its best is an adventure, a voyage of discovery," Dr. Doherty wrote in "The Beginner's Guide." "What could be more gratifying than to discover, describe, and explain some basic principle that no human being has ever understood before? This is the stuff of true science. Those societies that foster and harness that passion will be the prosperous, knowledge-based economies of the future." Early life and career

Born in 1940, Dr. Doherty grew up in the Australian state of Queensland. A visit during high school to the University of Queensland School of Veterinary Science piqued his interest in veterinary medicine. In Australia, students begin professional training directly after high school.

"I made the decision to go to the vet school at age 16 and, influenced by an older cousin who was a medical researcher, decided that I wanted to do research on the diseases of food-producing animals," Dr. Doherty said. "As an immature adolescent, spending my time around sick people had no appeal."

Dr. Doherty hoped to conduct research that would help feed the world, although he later reflected that he could have been happy as a large animal practitioner. In fact, his career led him to the realm of basic research. On earning his BVSc degree in 1966, Dr. Doherty worked for the state for five years to repay support for his studies. After a few months in the field, he moved to the state veterinary laboratory, where he did diagnostic pathology and studied bovine leptospirosis and avian viruses.

In 1967, Dr. Doherty took a position in experimental pathology at Scotland's Moredun Research Institute, where he did diagnostic neuropathology and studied louping ill virus in sheep. He earned his doctoral degree in pathology in 1970.

In 1972, to improve his knowledge of immunology, he became a research fellow at the John Curtin School of Medical Research back in Australia.

"My personality is such that I like to go after things in depth, I like to understand what's happening," Dr. Doherty said.

In particular, Dr. Doherty wanted to learn about T cells to better his understanding of the immune response to viruses.

The big discovery

At the JCSMR, Dr. Doherty met Dr. Zinkernagel, another research fellow. The two decided to partner on studies of the mouse's immune response to viruses.

Their key experiment involved infecting multiple strains of mice with a virus. They then studied, in vitro, the T cells developed by the mice to kill cells infected with the virus.

To their surprise, Drs. Doherty and Zinkernagel found that T cells developed in any one strain of mice to kill infected cells would not kill infected cells from other strains of mice.

Scientists had long known that T cells would kill even healthy cells from a foreign individual. This reaction is triggered by the T cells' identification of certain molecules on the surface of the foreign cells, called histocompatibility antigens, which vary among individuals.

Following their experiment, Drs. Doherty and Zinkernagel concluded that the purpose of histocompatibility antigens is actually to allow T cells to recognize the body's own healthy cells.

As part of the body's immune response, viral infection of a cell must trigger a change in the histocompatibility antigens on the cell's surface, they reasoned. Then, T cells target infected cells by recognizing the virus-altered histocompatibility antigens.

These T cells would no longer look for other variant or foreign histocompatibility antigens. Thus, in the

experiment, T cells that developed to kill virus-infected cells in one strain of mice would not kill infected cells from another strain of mice.

"We knew right off that we had a big discovery and did a great deal to publicize our findings and interpretation," Dr. Doherty said. "We reasoned that we had indeed discovered how T cell recognition works at the operational level."

Drs. Doherty and Zinkernagel published their findings in the journal *Nature* in 1974. Their interpretation was controversial, as many scientists thought the histocompatibility antigens might have another purpose, but the two researchers conducted additional experiments that supported their conclusion.

Later, other scientists would determine that virus-infected cells incorporate fragments of viruses directly into the histocompatibility antigens on the cell surface to signal infection to T cells.

Midcareer, Nobel Prize

Not long after their big discovery, Drs. Doherty and Zinkernagel went on to other institutions. In 1975, Dr. Doherty accepted a position at the Wistar Institute in Philadelphia. While there, he also collaborated with researchers at the University of Pennsylvania. He studied diseases ranging from influenza to rabies to multiple sclerosis.

In 1982, Dr. Doherty returned to the JCSMR as head of the Department of Experimental Pathology. Focusing again on immunology research, he moved to St. Jude Children's Research Hospital in 1988. From the late '80s to the early '90s, he also served on the board of what is now the International Livestock Research Institute.

Dr. Doherty was in Tennessee in 1996 when he received the call informing him that he and Dr. Zinkernagel had won the Nobel Prize for their experiments more than two decades earlier.

"My personal view of the prize is that, like many science laureates, I was recognised for my part in making a breakthrough discovery that changed the prevailing view," Dr. Doherty wrote in "The Beginner's Guide."

In 2002, Dr. Doherty joined the faculty of the University of Melbourne. He continues his studies in immunology today at St. Jude and the University of Melbourne.

"Biological science over the last decade has been enormously exciting because of the tremendous advances in molecular science and molecular technology," Dr. Doherty said. "And so you go to the most basic systems you can, and you study them in as much depth as you can, and try and understand actually what's happening."

Current Endeavors

Influenza has been the subject of much of Dr. Doherty's research.

"We've used diseases to probe how the immune system works, but over the last couple of decades we've focused largely on influenza," Dr. Doherty said. "It's a very important practical problem as well as a good way of accessing the complexities of immune response."

Influenza is the main pandemic threat for humans, Dr. Doherty noted, and avian influenza has caused enormous economic losses in developing countries that have had to cull millions of chickens.

Dr. Doherty has stepped back from research somewhat in recent years to commit more time to writing books that communicate the value and values of science to a lay audience.

"The Beginner's Guide to Winning the Nobel Prize," which came out in 2005, drew on Dr. Doherty's own story to explore the why and how of the scientific discovery process. His concerns about climate change and thoughts on various other issues were the subject of "A Light History of Hot Air," which came out in 2007.

Two other books are due out next year on themes involving infectious disease. "Sentinel Chicken" is the tentative title of a book partly concerning birds as sentinels of disease. The other book is a guide to pandemics in a question-and-answer format.

Since winning the Nobel Prize, Dr. Doherty has spoken often to veterinary audiences. He tries to make veterinary students aware of the possibility of a research career but not necessarily to suggest that they go in that direction.

"My attitude toward the veterinary profession is I think it's a great profession, it's one of the great caring professions," Dr. Doherty said.



Dr. Gayatridas Gauthankar

ECONOMIC EFFICIENCY OF GROWING DAIRY FARMS FOR LIVELIHOOD IN GOA KEY DRIVERS

The farm structure of Dairy Farms in Goa is changing. The numbers of household farms with 1-5 milking animals are being converted to family farm numbers with 10- 50 dairy animals. These new insights to develop strategies for a successful dairy farming in the state is challenge to field veterinarians , policy makers , co-operatives and organized milk producing agencies. Thus making to think on ideas of how to develop sustainable family dairy farms with more than 10-50 cows. "You can only improve what you can measure" with this saying it is the state farmers whose mind set is changing towards production of milk to meet the demand of the milk. After fish, milk has been major protein source to Goan food. Good remunerative price and assured market for milk and milk products are attracting many milk suppliers in the state. Still with existing 26 unorganised milk suppliers capacity, there lies deficit of more than one lakh lts of milk per day. This is a golden opportunity to dairy farmers, young youths to take up bigger farms setup to bring down cost of milk production with economic viability.

Crucial Factors affecting economic viability:

The evolution of dairy farms toward more efficient models is inevitable. In a commodities market such as that of milk, the factor that most determines profit is cost reduction. On dairy farms, the economies of scale associated with growth allow for the reduction of production costs, largely due to the optimization of labor, management and the use of capital. Although some smaller dairies can obtain similar production costs per unit of milk or animal, the larger volume of revenue from larger dairies allows them to obtain a higher total profit. Those dairy farms that choose to remain in the sector should seriously consider expanding, and for this purpose it is necessary to know the factors that determine the success of the process.

The size and the structure of the herd, the milk's components, the feed, productivity, the rearing of heifers, the health of the livestock, reproductive performance and economic management of the business, are the key areas whose factors have the greatest impact on efficiency.

Size and Structure of the Herd

As mentioned in the introduction, a higher volume of milk deliveries tends to lead to the reduction of costs and to the attainment of higher total profits. Once cows are producing at top capacity, the only way to make more milk is to increase the number of productive animals.

- **Total Number of Cows and Cow's Milk :**

Of the total number of animals present on a farm, the only ones which offer daily income for the business are cows in milk. Other animals are investments in key stages of the biology of the dairy cow (rearing and dry off). Optimizing the number of productive cows with respect to non-productive animals ensures a greater economic return.

In our area of operation, where the seasonality of calving is only limited by the stress produced by the summer heat, the most efficient farms manage to keep more than 70% of cows in production on an annual basis. Farms with the worst performance and reproductive management have increased costs of maintenance of non-productive animals.

- **Growth Policy in Dairy farm.**

Farms with good breeding performance and good health indices may increase the number of cows in milk year after year. In the event that investment is made in additional new facilities, they must be filled as soon as possible to start making the investment profitable. The decision to purchase cows in milk, or, on the contrary, heifers, should be based on the production cost of rearing and on the market price of dairy cows, as well as considering the handling and health risks associated with each action. During past years, that our farmers reported that rearing cost of heifers from calf to cow was higher than purchase of lactating cow under various schemes of the state.

- **Sale of Milk: Price, Quantity and Quality**

Revenues from the sale of milk are the main source of income for dairy farms. Our farmers receive between 75% and 84% of their revenues from its sale of milk. For this reason, both price, and the quantity and quality of the milk have a direct impact on the profitability of the business.

- **Base Price of the Milk**

As discussed above, the price of milk is basically determined by the market. Although a price range does exist, depending on the dairy industry to which the milk is sold, this price depends very little on the dairy farmer. Today, only the ability of the owner to negotiate the timing and volumes specified in the annual contract has an effect on the efficiency and the growth potential of the farm.

- **Production of Fat and SNF and Impact on Price**

Optimization of the production of fat and SNF is a determinant of the price of milk and, therefore, of efficiency. Farms which are expanding should consider strategies that encourage the production of these components, which must also be less costly than the increase in revenue which they originate.

- **Hygienic Quality and Impact on Price**

The standard legal limit for somatic cells for the sale of milk is 400,000 SCC/ml. But somatic cell count is not yet mandatory for milk pricing in state of Goa, but in due course this parameter will be also considered. Even so, it is advisable for this to be kept at low levels because it is linked to the increase in production and decrease of waste milk, improvement of udder health and reduction in the cost of treatments and additional labor.

- **Total Volume of Milk**

Growth in herd size must be accompanied by the growth in total volume of milk sold in order to obtain the twin benefits of cost reduction and increase in total profits. Apart from the increase in herd size, another effective measure to be considered should be to increase the frequency of milking. Adding one more daily milking allows for an increase in volume with the same size herd. This measure, however, is efficient if the increase in income is greater than the extra feed cost (due to an increase in intake), labor (another milking shift), electricity, detergents and other tools for milking, and the depreciation of the milk due to the reduction of Components.

- **Feeding**

Feeding is the element related to production that has the greatest impact on production cost. In addition, external factors related to feed such as agricultural production and storage may cause silent losses. Expanding livestock farms should develop a feeding strategy that optimizes the nutrition of the stock and minimizes losses outside the feed stalls.

- **Impact of Feed on Production Costs**

As the farm makes more milk, feed cost is diluted in more liters of milk. The cost of the rations for dry cows increases in relation to milk production, if the percentage of cows in milk decreases. Among our farmers it is found that differences of up to 5.5 times due to the increased cost of the daily ration and the lower number of cows in production. Similarly, if the percentage of heifers with respect to adult cows increase, the cost of feeding during rearing in relation to milk produced also increases. It is estimated that feed cost is 72 – 74 % towards milk revenue generated in state of Goa.

- **Agricultural Profitability**

Although our typical model of dairy farm is a mixture of livestock and farming, with stock density ranging from 2 to 12 livestock units per hectare, Separate accounting records should be kept for each of the two activities in order to avoid a distorted reading of the efficiency of each economic activity. The variability of soil, the type of crop, the impact of climate on harvests, etc., can cause diagnostic errors that should not affect control of feeding costs.

- **Labor Productivity**

One of the benefits of growth is the optimization of the labor force and an increase in productivity per worker (agricultural work unit, AWU), which is mainly reflected in lower personnel costs. We can see family dairy farms that milk 1-5 cows/AWU and obtain 60 L/day/AWU, and commercial dairy farms where more than 20-40 cows/AWU are milked, obtaining 300 L/day/AWU.

The higher the cost per hour worked, the greater the impact of labor productivity. Those farmers where the personnel cost is low may consider an expansion involving the hiring of a large number of workers. On the other hand, those farmers with a higher personnel cost should consider investing in facilities and technology that enable greater productivity. Both labor and management of staff and the efficiency of investment in installations and livestock can be measured in terms of productivity.

- **Cow Productivity**

For the correct assessment of cow productivity, measurement of annual production should be used (cows are milked part of the year and their production is variable), combined with measurements of production for the total number of cows (to quantify the impact of the non-productive cows), and including corrections based on components such as Milk and Rolling Herd. The cost of replacement is the second or third largest cost for our dairy farms. Therefore, you must optimize the return on your investment and minimize the total cost through appropriate handling.

- **Needs Versus Ration of Heifers to Adult Cows**

The need for heifer depends basically on the total number of cows (or the forecast of future cows), on the culling of cows and heifers and on the age of cow at first calving. The number of animals to rear must come close to projected needs since, mainly the case of excess; there can be an overrun in replacement costs.

- **Strategy of Feeding and Age at Calving**

There are different models based on the intensity of feeding and the age reached at first calving. In any case, you should opt for one that brings a higher return (subsequent milk production versus cost of production of the heifer). Delay in age at calving due to poor handling increase the cost due to an excess number of days of rearing and negatively impact the subsequent production of the heifer.

- **Health, Mortality and Culling**

All losses of heifers that do not reach calving are total losses of ongoing investments that have an impact on the farm's total cost of replacement. In addition, those heifers with chronic respiratory disease or infertility which are not culled before their first calving are more likely to leave the herd before the end of the first lactation, with the resulting

impact on your return.

- **Reproduction Management and Performance.**

Reproductive and health management of the dairy herd is a biological bottleneck: it is the only way to ensure calving, the life cycle of the cows and milk production. Reproduction strategy should be designed taking into account the characteristics of animals, staff, facilities, climate, etc., and there are many options to choose from. The combination of heat detection, use of new technologies and application of hormonal treatments allow better results to be obtained than would be the case with insemination performed only on the basis of visual detection. In our area of influence, for example, where farms have reasonably high production levels and where heat stress affects the whole summer season, farmers are forced to establish measures to mitigate the effect that this has on conception and the rate of calving. Even so, we can see farms where the monthly conception rate in a winter month is approx. 38% and in a given summer month is less than 15%.

- **Health, Mortality and Culling**

The farms that obtain the largest cash flows are those that, in addition to selling more milk and producing more milk per cow per year, have the healthiest animals. Good health allows cows to express their full potential, in addition to reducing replacement costs and spending on treatments and labor.

Mortality represents a loss of productive animals or those in which an investment has been made, and prevents the recovery of the residual value from the sale of such animals. Those farms with better management and facilities achieve a mortality rate below 5%. It is observed that mortality rises above 10% and as high as 20% in farms with health deficits and lacking voluntary culling. Overall culling on the farm is a decisive factor on the number of heifers required. The greater the amount of culling, the greater the total cost of raising or purchasing cows to maintain or increase the size of the herd. Although we find culling rates from 10% to 20% over long periods of time, we know that farms at both ends of this spectrum can achieve similar efficiency by taking into account the amount recovered from the residual value by sale.

Economic Management

It is essential that the owner or supervisor of the farm be a good manager. Technical efficiency should lead to economic viability. To do this, it is necessary to carry out an exhaustive control of production costs, study the investments to be made, carry out a proper management of the treasury and obtain the best sources of financing.

- **Cost Control**

Different models can be applied for cost analysis, but taking into account the different activities (milk production, heifer raising, crop growing) and using the same system for the comparison of this data. Cost control allows you to set goals and establish budgets.

- **Investment Policy**

As the size of the herd grows and the amount of the investment is greater, it is necessary to carry out studies of dynamic assessment of investments to determine whether or not to implement them. Accumulating assets which are oversized due to the size of the farm (milking parlor, fodder chaffing machinery, etc.) can lead to the inefficiency of the capital invested and result in a situation of financial insolvency¹⁸.

Investment in those farms of ours which are expanding ranges from 5,000 to C6,000 per cow. An investment of more than C 6,000 can lead to an inefficient use of capital¹⁸.

- **Financing**

Owners who decide to invest should be aware that the interests of outside capital, as opposed to those pertaining to one's own equity capital, are fiscally deductible¹⁹. It is obviously a good idea to consider obtaining capital to invest, and its impact on the solvency and liquidity of the business.

Conclusions

Obtaining permanently high levels of technical and professional efficiency in dairy farms is not easy. Even so, we know the factors that have greatest effects on it and we have opportunities to improve it. A growth strategy aimed at the optimization of these factors together with the proper management of the business is the best way to achieve the best results.

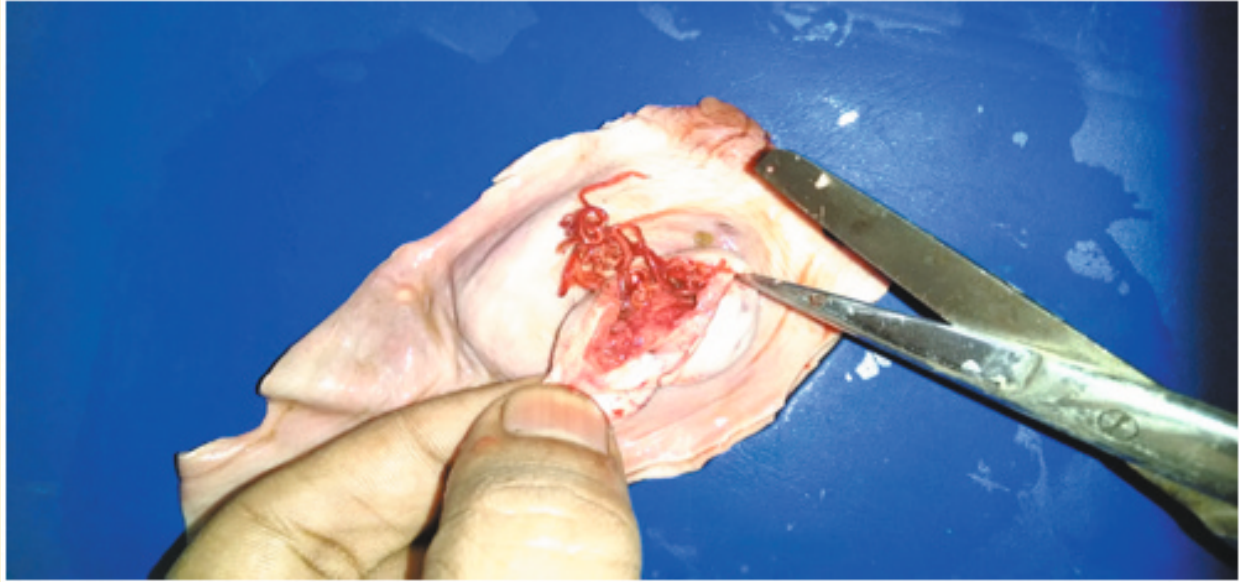
The growth in farm size is often a sign of better sustainability once salaries and off-farm employment opportunities arise. However, which criteria count for a sustainable system is up to the farmers to decide. One of the bottlenecks in dairy development is still the lack of skills and farm management. Government and Dairy Co-operatives should together initiate training programmes, on dairy farm costs and key drivers to improve farmers' general management of the farm, its operation and milk production. Other way Farmers will have to take the leadership role in ensuring the future prospects of their farm services and infrastructure required.



Dr. R. B. Dhuri

POSTMORTEM INVESTIGATION OF Spirocercosis IN A STRAY DOG OF MARGAO

A stray dog, from the locality of Navelim, Margao Goa was examined for post-mortem. Grossly, multiple nodules of varying size (3mm to 2cm) with firm consistency were found in the mucosa of oesophagus and wall of



Nodule showing presence of spirocerca nematode worms
aorta. Live, bright red worms were found inside the nodules.



oesophagus showing
nodule

On Histopathological examination of oesophagus, cartilaginous metaplasia was observed in the tunica media and fibrous tissue proliferation was also noticed. Tunica media of the wall of aorta was degenerated and damaged due to aneurysms. Investigation revealed that dog suffered from Spirocercalupi infestation associated with nodule formation. Spirocerca nodule especially involving aorta is life threatening as it can lead to spontaneous aortic rupture.

Therefore, it is very important for timely deworming of pet dogs as the stray dogs can act as a potent source of spirocercalupi infection.



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AMORPHOUS GLOBOSUS MONSTER CO-TWIN WITH LIVE FETUS IN A COW - A CASE REPORT

Amorphous globosus is a rare and incidental finding in domestic animals. The fetal monster is also referred as holocardius amorphous, where the general body form of the fetus is unrecognizable. This anomaly is believed to be the result of a twin pregnancy in which the co-twin is usually normal, viable and generally born first (Hafez and Hafez, 2000). According to Roberts (1986), amorphous globosus is an asymmetrical twin attached to the placenta of the normal fetus. These imperfect zygotes are parasitic upon the placenta of the normal twin and usually appear round or oval, edematous structure covered with skin, hair, connective tissue, fat, soft tissues and occasionally cartilage and bone.

Case history and observation:

A primiparous cow aged 4 years with full term pregnancy was presented to the Gynaecology and Obstetrics ward of Teaching Veterinary Clinical Campus with history of unproductive straining for over 8 hours. Clinical examination of the cow revealed relaxed sacro-sciatic ligaments, pelvic structures and edematous vulva. Vaginal examination revealed completely dilated cervix with presence of a fully grown fetus in posterior longitudinal presentation, dorso-sacral position with complete retention of the hind limbs beneath the body. The condition was diagnosed as dystocia due to breech presentation.

Treatment and discussion :

The cow was subjected to epidural anesthesia using 5 ml of 2 % Lignocaine hydrochloride solution to prevent further straining and pelvic sensation in order to facilitate vaginal manipulation. After allowing 4-5 minutes for the anesthesia to set in, the vaginal manipulation was attempted to remove the fetus. The fetus was repelled on the buttocks and traction on one of the tibia was done to convert it into a hock-flexed posture. By upward repulsion, lateral rotation on the hock and medial and caudal traction on the hoof, the leg was extended into the pelvis. The same mutational operation was performed on the other leg and brought back to the pelvis. By applying traction on the two rear limbs, a live male calf was delivered which died shortly within an hour.

Subsequent vaginal examination was performed later and a roughly spherical mass without any palpable extremities was observed deep in the uterine horn. With gentle traction, the mass was removed through the birth canal. Detailed examination of the mass revealed that the internal organs are displaced, compressed and covered with mucus membrane and jelly like tissue in the anterior segment and the posterior segment covered by skin and hair coat. Vulval lips with tuft of hair was identified in this posterior segment near the hind limbs. The hind limbs were rigid, flexed and partially developed. Based on these characteristics, the fetus was diagnosed as amorphous globosus monster. The cow was administered 1500 ml of DNS, 250 ml of Calcium borogluconate and discharged later.

Amorphous globosus has been reported in cows (Czarnecki, 1976 and Kamimura et al., 1993), mare (Crossman and Dicken, 1974) and goats (Anwar et al., 2009). The strange monsters are believed to be attached to the fetal membranes of the normal monozygotic or dizygotic twin and are never observed in single births (Roberts, 1986). Hishinuma et al. (1987) and Kamimura et al. (1993) reported that amorphous globosus fetus had the same chromosomal sex as the co-twin. However, Hishinuma et al. (1988) suggested that the fetal monster can develop from dizygotic twins. In the present case report, it clearly indicates that the two fetuses had originated as dizygotic twins as the normal calf was male whereas the anomalous monster amorphous globosus was female which supported the findings of Roberts (1986) who reported that amorphous globosus was an imperfect zygote of dizygotic twins.

After 3 hours, the dam expelled the placenta normally. To conclude, amorphous globosus is an incidental finding and is due to the result of a twin pregnancy in which the co-twin is usually normal, viable and generally born first.



Fig. 1 Normal male calf (above) with amorphus globosus monster (below)



Fig. 2 Amorphus globosus monster



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SUMMER MANAGEMENT IN DOGS

Summer is here and that means a lot of outdoor fun with your pet!!!--but it also means soaring temperatures and the heat of the day could be detrimental to your dog's health. Dogs have a higher body temperature than humans and are covered with fur and have very less sweat glands so they pant heavily to expel the heat out from their bodies. Thus ,can be affected by heat very quickly. Dark colored dogs especially black ones need to be protected from severe heat and could end up suffering from heat stroke which at times is fatal.

Outside activities can be fun during summer with your DOG but remember to protect him from the summer heat. If you are not careful, your dog could suffer from heat exhaustion and collapse.

As we are aware, Dogs pant to cool off. If you notice excessive panting, move your dogs to a cool, shady spot and offer plenty of chilled water, you can even spray cold water on the dog directly.

In extreme cases, pets can develop high fever, rapid heartbeats or even vomit or faint, these are signs of heatstroke and should be treated like an emergency. Pets with dark coats tend to absorb more sun's rays. White coats also require a bit of extra sun protection during summer. Never leave your dog in the car standing in the sun. More dogs die of heat exhaustion in parked cars. The car gets too hot--even if you leave your dog for only a short time. Leave him home in a cool area during summer.

During summer walks and exercise should be done in cooler times of day. People love running with their dogs and often think that a dog has no problem handling the heat. This is not true. The risk of heat exhaustion can be reduced by running in the cooler times of the morning or evening. Also avoid hot pavements, which can burn the footpads of your dog's paws.

Hydrate your dog even during a walk, always carry water bowls on walks and hikes with your dog, add a few ice cubes to his water all throughout the day in summer.

Bathing your dog more often during summer is a good idea if your dog loves water, taking him to the beach for a swim early morning or late evenings after 5pm can also be a great to cool off.

Wrapping a cool pad or wet bandana around your dog's neck before heading outside can help stay cooler and avoid heat exhaustion. Brushing your dog's coat often can help decrease the risk of heat exhaustion, especially if your dog has a heavy coat. During the hot times of the day, keep your dog in safe, cool area of the house under the fan or in an ac room.

Heat rises from the ground, especially on surfaces like cement and asphalt, and dogs absorb and release heat through their feet, so using doggy shoes if available is a good idea, Just like boots prevent the dog from absorbing the cold in the winter, they also isolate heat

Short hair cuts. Many dogs see their groomer for summer-friendly clips in the summer time, but make sure not to go too short, particularly if you have a light-colored dog with pink skin. Dogs can get sunburned just like us.

If your dog is kept in a kennel ,check if the kennel is covered and cool from inside and water is provided all the time.

Protect his nose by putting sunscreen on it. It is a part of a dog's body that is not protected by hair and is very susceptible to sunburn.

When a dog is exposed to excessive heat, it causes his body's cells to stop working the way they're supposed to and in turn, release harmful chemicals and all of the dog's organs can shut down at once AND HE/SHE COULD COLLAPSE DUE TO HEAT STROKE.

Signs that your dog may be suffering from heat exhaustion:

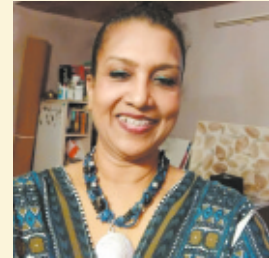
- * Excessive Panting
- * Excessive Drooling
- * Increased Heart Rate

- * Trouble Breathing
- * Disorientation
- * Collapse or Loss of Consciousness
- * Seizure
- * Respiratory Arrest

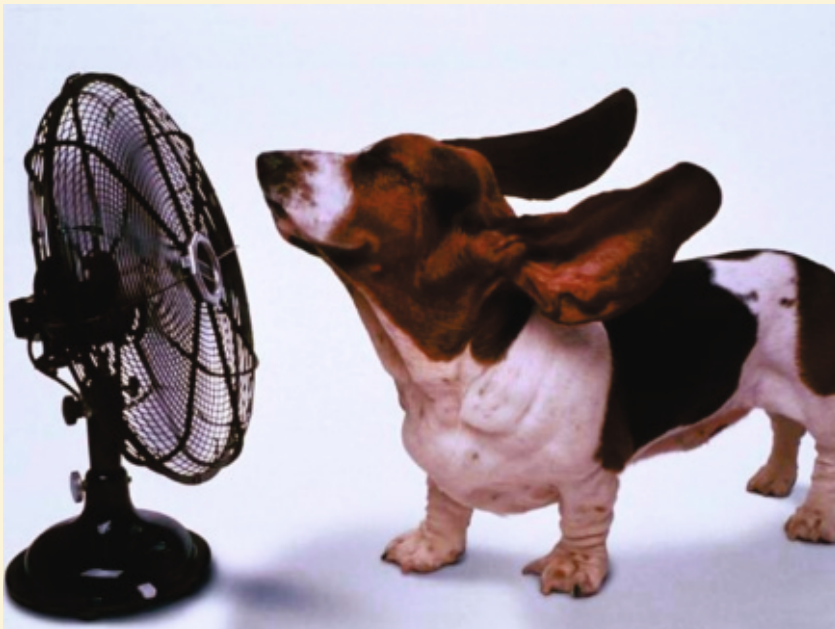
IMMEDIATELY PUT HIM IN A BATH TUB NECK DEEP OR POUR WATER OVER HIS HEAD AND HOLD ICE ON HIS FOREHEAD, GET IN TOUCH WITH YOUR VET AND TAKE HIM THERE IMMEDIATELY.

Take the time to protect your four-legged children just as you would your two-legged children as the summer heats us up!

Warm regards this summer,



DR ACHINA JOGLEKAR



*It's very
hot yaar ...*



It's very hot these days

“BLOOD TRANSFUSION KIT” FOR LARGE ANIMALS

INTRODUCTION:

Large animals especially in bovine, severe anemia occurs due to blood protozoan infection like Theileriosis, Babesiosis, Trypanosomiasis, ecto and endo parasite, blood loss during surgery and nutritional deficiency. In severe anemia where there is extreme depletion of oxygen carrying capacity of the blood occurs. Most of the animals die due to severe anemia. Therefore, a simple, rapid, inexpensive and timely administration of blood in cases of life-threatening anemia in large animal is clinically very rewarding. By keeping in view of all those things Blood transfusion kit for blood transfusion in large animals is designed. Blood transfusion kit is easy to perform, less time consuming, economically justifiable, giving spectacular results and professional.

COMPONENT OF BLOOD TRANSFUSION KIT:

- Empty collection bag - 2 liter. capacity
- 200 ml anticoagulant. (CPDA)
- Blood transfusion sets-2
- Blood collection needles-2
- Syringe 50 ml capacity-1
- Glass slide-1
- Emergency medicine for blood transfusion reaction.

PROCEDURE OF BLOOD TRANSFUSION:

Selection of donor

The selection of donor may be restricted by availability, but should be a healthy, mature animal which 4 to 5 yrs of age and easy to handle. Body Condition Score should be greater than 4.5.

Cross matching:

First transfusions are usually safe to apply without cross-match of blood, hence no need of cross matching for first blood transfusion.

Blood collection:

Transfer 200 ml anticoagulant into empty blood bag with the help of 50 ml syringe provided with kit. Select healthy donor animal and restrain tightly with a rope halter. Pulling the head as far as possible to either side will help expose the jugular vein. Identify the jugular, then clip an exposed section of skin mid-way along the jugular groove and perform a basic sterile preparation of the area. Insert needle into jugular vein provided in kit and attach blood transfusion set to needle. When blood start flowing through blood transfusion set, insert one end of set into blood collection bag, through top outlet and collect blood in bag with slowly shaking. Once you have obtained the desired quantity, release the jugular and remove the needle. Total blood volume in cattle represents 7-8% of bodyweight. No more than 25% of total blood volume should be collected from a donor at one time. In practice, 10-15% of an adult's blood volume (5-6 litres) is usually sufficient for most indications. (Gareth Bell, 2006).

Administration of blood:

Restrain animal tightly with a rope halter, if necessary. Transfusion can be done in a paddock to a recumbent cow, restrained with a halter tied to her leg. Insert blood transfusion set into second opening of bag. Blood collection bag is provided with non return valve at top opening so u can invert the bag and start transfusion. It is recommended to run the blood relatively slowly for the first few minutes, while there is a low risk of transfusion reactions (manifested as respiratory distress, oedematous swellings, tachycardia, hiccupping, thrashing or sweating), the recipient should be continuously monitored. In case of reactions, use medication provided with kit at proper dose rate. (dose rate given along with kit). The remaining blood can be run in over 10 to 15 minutes. Monitor the giving set for any air pockets towards the end of the transfusion and stop once you see these begin to appear, even if your collection chamber is not yet empty. Subsequently, remove the needle and apply pressure for a few minutes. Kit is provided with step-by-step procedure and precautions.



Conclusion

Blood transfusion kit is very helpful for successful blood transfusion in large animals because all the materials, chemicals, medicines and procedure is given in kit. We vet always face the problem of availability of all those things required for blood transfusion, so we hesitate to do blood transfusion or we do but we don't get expected results. Keeping in view of all those things kit is prepared so that we vet can do blood transfusion easily and safely to save life of many speechless creature on earth.

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Amazing General Veterinarian Breakthroughs in the Last 10 Years

From surgeries to the latest advancements in therapies, the below have it all.

[Stem Cell Therapy](#)

1. Not just a point of conversation and debate for human medicine, it is available in veterinary medicine as well. Its goal is to stimulate and activate dormant stem cells ensuring maximum uptake achieving best possible results. It is offered by many practices, including Medivet, which has loads to say about it on their site.

[Cancer Vaccine](#)

2. In this aspect, veterinary medicine seems leaps ahead of human. This vaccine is intended for melanoma, or a type of skin cancer. Since dogs spend most of their time exposed to the sun without any kind of sunscreen, they can be susceptible to melanoma. The blogger at What Would a Dog Do has more.

[The Anti Vaccine Movement](#)

3. Not just for parents, pet owners have now become more wary of vaccines and the adverse reactions they can have on pets. In order to better understand vaccines, veterinarian T.J. Dunn shares his decades of experience on administering hundreds of thousands of vaccines. He also includes a few true life examples of what an adverse reaction to a vaccine can be.

[Laparoscopy](#)

4. If your pet had a problem the vet couldn't readily diagnose, an invasive and dangerous exploratory surgery was often recommended. With this veterinary breakthrough, the procedure can be done laparoscopically, as often done on humans. This involves only a small cut and the insertion of a small camera.

[Laser Surgery](#)

5. Not just for corrective eye surgery in humans anymore. Concentrated light sources can be used in spays and neuters, declaws, ear surgery, and many more. Dr. Larry includes other benefits of laser surgery.



[Companion Laser Therapy](#)

6. But wait, there's more! The Lewisburg Veterinary Hospital has implemented this kind of technology with impressive results. Their laser therapy can be used for pain relief, wound healing, ear infections, hot spots, arthritis, and other common conditions. Check out the video with more.

[Breed Test](#)

7. Are you in doubt of what breed your dog is? Perhaps you wonder if your pooch is a purebred or even what kind of mix they are? For only \$69.99 you can have this breeding test done at Wisdom Panel on your dog to determine once and for all what their breed is.

[Animal Acupuncture](#)

8. Because Asian medicine isn't just for people, there is also acupuncture for pets. The American Academy of Veterinary Acupuncture says that acupuncture can treat ailments ranging from hip dysplasia to chronic degenerative joint disease. It has become ever increasing in the vet world and many are learning how to practice it themselves.

[Why They Die](#)

9. As unfortunate as it is, every pet dies from something. However, with this new study conducted at the University of Georgia, it is now possible to predict the most likely cause of death for your pet and be prepared for it. They list the most common causes of death, such as cardiovascular disease and cancer, by breed it is most common in as a cause of death.

[MRI](#)

10. In another not just for humans entry, magnetic resonance imagery has come to the veterinary medicine. Making a debut at Cornell University in 2004, the first patient was a Persian cat. The imagery technology shows more resilient, detailed images than other similar technology.

Amazing Veterinarian Medicine Breakthroughs in the Last 10 Years

With a prescription for everything in humans from high cholesterol to bad mood, veterinary medicine has kept up.

[Pet Supplements](#)

11. Multi-vitamins, supplements, and such are no longer just for humans. According to Nutraceutical's World, pet supplements account for half of U.S. animal nutrition sales and grew more than seven percent to \$1.4 billion in 2008, adding \$98 million in new sales. Most of these sales happen in pet specialty shops, with the rest in vet's offices, health food stores, and others.

[Probiotics](#)

12. We've all seen the yogurt ads where probiotics were shown to naturally help the digestive process. However, the average pet owner just can't crack open a carton of yogurt and feed it to their pets. No worries, the probiotic industry has many options for pets, and you can read more here.

[Palladia](#)

13. Did you know that over one million dogs per year are diagnosed with cancer? For some of those, treatment can come in the new form of this drug. This drug is used to treat mass cell tumors and works by blocking the activity of key receptors important in the development of blood vessels that supply tumors, as well as receptors vital for tumor survival.



[Ketoprofen](#)

14. The drug ketoprofen represents a breakthrough in veterinary medicine for extra-fast treatment of pain, fever, and inflammation. It can be injected after farrowing as a prophylactic against farrowing fever and MMA complex disease. The blogger at Vetsweb has more.

[Benadryl](#)

15. You take it for allergies, but how safe is it to give to pets? Janet Tobiassen Crosby of About.com answers the question from a vet's point of view on how this drug can help under the right conditions. Of course, speak to your own vet before haphazardly giving an animal a people drug.

[Bayer for Pets](#)

16. At some time or another, we have all taken a product from Bayer for a number of reasons. Most famous for aspirin, they also have many products available for pets. This particular new release is an antibiotic for the treatment of bacterial infection in dogs and cats.

[Herbal Therapy](#)

17. With humans doing everything from chugging wheat grass juice to popping Ginkgo biloba, it is only natural that pet medicine would follow. The folks at Mountain Rose Herbs share why herbal supplements can be important to animals health, as well as which herbs are best for what. Choose from glycerine liquid extracts to a detox blend.

[Nutraceuticals](#)

18. As any owner with older pets can tell you, arthritis is often a problem. With this veterinary breakthrough, arthritis can be a very treatable problem. A Nutraceutical represents compounds found in food and herbs that may have a profoundly beneficial impact on the health of the body and include items such as glucosamine.

[Dental Vaccine](#)

19. If your dog is one of the breeds that is more prone to dental disease, you may have been offered a dental vaccine for them. Although a veterinary breakthrough, this blogger hesitated before shelling out the dough for this particular vaccine and shares reasons why.

[Rattlesnake Vaccine](#)

20. Do you live in area populated by rattlesnakes? Then maybe this is a vaccine you should consider for your pet. Just as their bites can be deadly to humans, rattlesnakes can also be deadly to animals. A veterinarian discusses more with a local news station in Arizona.