Provet
Excellence through Innovation

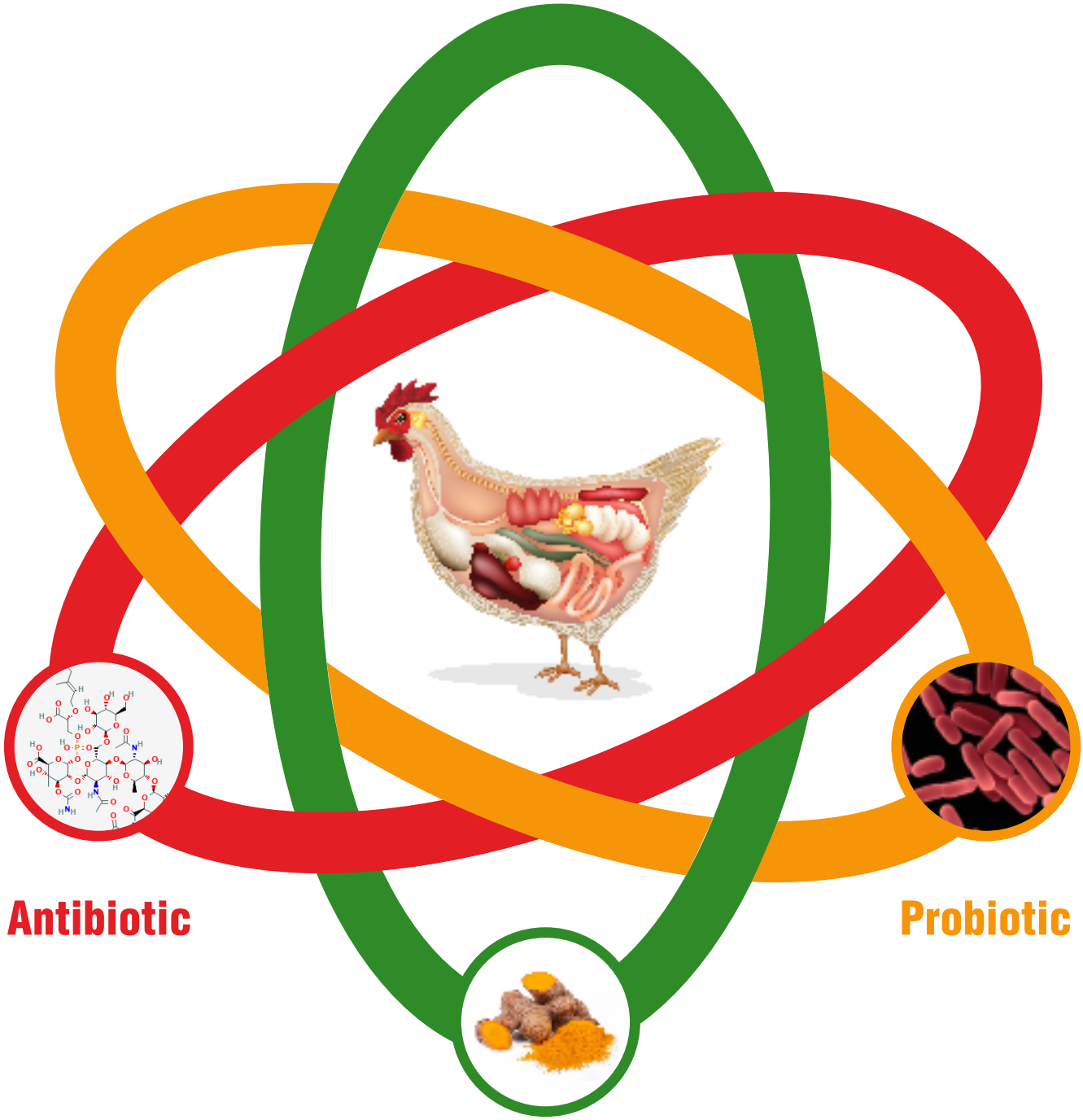
OCT
2022

PROPULSE

Provet showcases its Novel Solutions at Bihar Poultry & Aqua Expo 2022

BAMBERCIN®PLUS

The Novel & Potent TRIBIOTIC



BIHAR POULTRY AND AQUA EXPO 2022

The three-day Bihar Poultry and Aqua Expo - 2022 was organized at Gyan Bhawan, Patna from 20.09.2022 to 22.09.2022. At this biggest fair in North India, Provet showcased its wide range of Poultry (Avinova), Aqua (Blunova), and Bovine (Bovinova) products. Many farmers, producers, entrepreneurs, feed companies, government departments, universities, and experts from all over Bihar and other states related to poultry and fisheries participated and visited our stall.

Mr. Sudhakar Singh, Agriculture Minister, Govt of Bihar, Mr. Md. Afaque Alam, Minister-AFRD, Govt of Bihar, Vice Chancellor, BASU, Patna and Mr. Samir Kumar Mahaseth, Industry Minister, Govt. of Bihar, inaugurated this three-day fair.

The prime location of our stall was the key attraction and we missed none to get amazed including the chief guest of the expo and the organizers. The main aim of our exhibit was to create an insight into our quality and unique formulations that favors the betterment of animal health and the economy of farmers.

On Day 1 (20.09.2022), special guests Hon'ble Agriculture Minister Mr. Sudhakar Singh, Dr. N. Saravana Kumar, Secretary, AFRD, Govt of Bihar and Mr. Rakesh Kashyap, Organizer, Bihar Poultry and Aqua Expo visited the stall and had a brief interaction

On day 2 (21.09.2022), technical sessions for poultry were held. The presentation of Dr. Ajay Chalikwar, AGM-Technical services, Avinova, Provet on the topic of GUT HEALTH AND IMMUNITY received great response from the audience.

Many poultry breeders and hatchery owners, farmers, feed manufacturers, consultants, and dealers interacted with Provet team and acquired solutions for their various concerns like effective control and prevention of diseases, increased egg and meat production, health, immunity, etc.

Mr. Ritesh, SM Enterprises

Avinova's blockbuster products like Bambercin Plus, Nagronex group, Larvistat group, Immulator and Lebrocin BH were the focus of attention and received much-needed recognition. The audience were curious to know about these unique and synergistic formulations and non-antibiotic growth promoters.

Apart from the public eye, our stall was in the limelight of local and national media.

Mr. Tuntun Singh, renowned aquaculture consultant visited and accepted Provet's greetings after having brief insights into our products.

Dr. N. Saravana Kumar, IAS, Secretary, AFRD, Government of Bihar being greeted at our stall

Our Aqua division (Blunova) created a unique vibrance by attracting many Aqua farmers. A favorable response was received when many consultants and government sector officials like the Fisheries Development Office(FDO), and the Assistant Director of Fisheries (ADF) visited our stall and had a brief interaction with our associates.

Provet's association with the Officials of the Department of Fisheries, Bihar, paved way for business expansion opportunities.

Hon'ble Water Resources and IPRD Minister Shri Sanjay Kumar Jha being greeted at our stall

Unique brands like Envipro Gold & Bacitox plus gained the interest of many customers and were the talk of the stall. Hindi product catalogs were distributed on all three days along with promotional inputs for creating brand awareness among the farmers.

During the technical session on aquaculture held on day 3 (22.09.2022), Mr. Kundan Kumar, RSM, Blunova, presented a topic on POND HEALTH MANAGEMENT IN FISH FARMING, which was very well appreciated and had a good reverberation among the audience.

National Conference on Native Chicken

Relevance Of Climate Smart Traditional Farming Systems In The Era Of Omics

Provet was one of the Gold Sponsors for this conference organized by the Directorate Of Centre For Animal Production Studies (CAPS), Tamil Nadu Veterinary And Animal Sciences University (TANUVAS) in collaboration with Indian Poultry Science Association (Tamil Nadu Chapter) on 22nd & 23rd September, 2022 at Madras Veterinary College, Chennai.

Provet exhibited its wide range of products for use in poultry during these two days of conference
Dr. Selva Kumar, Hon'ble Vice Chancellor, TANUVAS, professors, delegates and scientists visited our stall.
Students of Madras Veterinary college eagerly explored and enquired about our products.
Poultry farmers who participated in the conference, made a visit and learnt about our products.
Provet was represented by Dr. Jayastephen, Marketing Manager, Karuchina Kumar, TSM and Dr. Vikasini, Management Trainee - Marketing, who very well explained about various problems faced by the poultry industry and the solutions to tackle these problems using our innovative products.

SHRIMP DISEASE MANAGEMENT FOR SUSTAINABLE AQUACULTURE

Vanitha, Marketing Manager & **Dr. Vijay Sundar Deva**, Area Technical Manager

Introduction

The practice of growing, raising, and collecting different types of shrimp for human well-being is known as shrimp aquaculture. One of the most popular seafoods consumed globally is shrimp (FAO, 2019). Due to the growing population, there is a huge demand for food products made from shrimp, and aquaculture is essential to supplying that demand. Shrimp aquaculture is becoming more widely accepted as an animal-based food source on a global scale, which highlights the need for broad production of many different shrimp species and sustainable development.

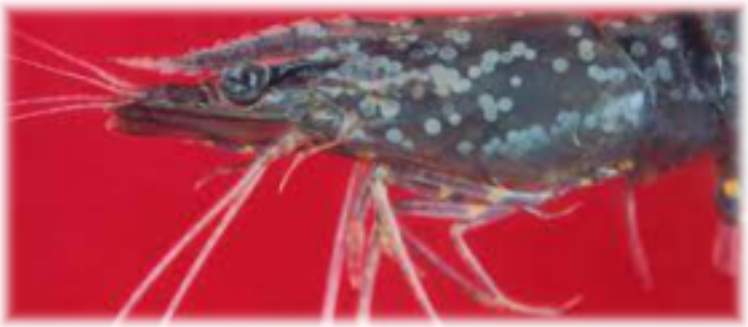
In aquaculture practice, shrimp are exposed to artificial environments where they encounter various pathogens generally absent in their natural habitat. Variations in pH of rearing water, temperature, dissolved O_2 content, and presence of toxic chemicals are some of the commonly encountered physical and chemical factors that contribute to poor growth and mortality in shrimp. Poor water & feed quality, high stocking density weaken the shrimp's innate immunity, increase pathogen transmission & incidence of infections and cause mass mortality.

Major disease concerns:

Health management has always played an important role in modern shrimp culture. Shrimp have a primitive immune system compared to fish and are reared in environments where several pathogens are naturally present. The quality of the rearing water has a great role in the survival of the shrimp, as major fluctuations in water quality may lead to physiological stress and thereby increase susceptibility to pathogenic attacks. Consequent to the intensification of farming practices, the incidence of disease outbreaks has also increased.

Diseases of viral aetiology are of greater significance and have led to huge economic losses in all shrimp farming regions of the world. The World Organisation of Animal Health (OIE) has listed five viral diseases important for shrimp.

White Spot Syndrome Virus (WSSV): It was first detected in north-east Asia in the early 90's and later spread to the rest of the world. It affects most cultured penaeid shrimp, leading to heavy mortalities in 3 to 10 days. Loose cuticles with characteristic white spots and reddish discolouration of the body are common signs of the disease. The virus is transmitted both horizontally and vertically, and many crustaceans act as carriers of the virus and aid in transmission.



Infectious Hypodermal and Haematopoietic Necrosis Virus (IHHNV): Gross signs of disease in an infected animal become evident after about 35 days of post larval development. Infected shrimp often show reduced feed consumption and cannibalism.

The disease is also evident by the high morbidity. The infection is commonly called "runt deformity syndrome" the effects of which include reduced and irregular growth, a deformed rostrum growing to one side.

Taura Syndrome Virus (TSV): TSV can cause significant losses in shrimp populations, with symptoms including stunted growth, white faeces, and death. It is believed to be caused by a combination of stress, poor water quality, and environmental factors.

Infected shrimp will often have a twisted body, and their tails will curl under their bodies. The virus can also be spread through contact with equipment or surfaces that have been contaminated with the virus. TSV can also be spread through contact with infected people or animals. The symptoms of Taura Syndrome include fluid accumulation in the body, lethargy, reduced appetite, and discolouration of the shell.

Yellow Head Virus (YHV): YHV was first reported from Thailand in 1990 and is believed to be present in South-East Asia and the Indo-Pacific regions. The principal host of the virus is *P. monodon* and the infected shrimp have a characteristic, yellowish-swollen cephalothorax and hepatopancreas. The shrimp become lethargic and lose their appetite.

Infectious Myonecrosis Virus (IMNV): The infected shrimp show necrosis of skeletal muscle tissue with persistent mortality throughout the culture period. It primarily affects *L. vannamei*, but it can also cause infection in *P. monodon*. Even though not listed by the OIE, Monodon Baculovirus (MBV) and Hepatopancreatic Parvovirus (HPV) are prevalent in the shrimp populations in India. They rarely cause mortalities in farms, but they do stunt shrimp growth

and make them more susceptible to secondary infections. Bacterial infections caused by *Vibrio spp.*, which are natural inhabitants of our coastal waters, also lead to economic losses in shrimp aquaculture.

Better management practices and biosecurity

Disease outbreaks and economic losses have compelled farmers to adopt better management practices to ensure environmental and socioeconomic sustainability, the health of the shrimp, consumer food safety, and the profitability of farming operations. It is dependent on interventions, beginning with the selection of a farm site, followed by design, seed production, water, feed, and shrimp health management, food safety, and accountability. These are site-specific, simple, and practical interventions that are easily adoptable for small-scale farmers. The principles of bio-security, a set of practices aimed at reducing the probability of disease occurrence and its spread, were also incorporated into the existing cultural practices. Other than stocking disease-free seeds, to prevent the entry of pathogens into the culture system, all the possible horizontal routes of transmission have to be closed. Disinfection of the pond bottom helps in eliminating pathogens persisting in the soil. Disease carriers like crabs, contaminated land animals and birds, contaminated feed, utensils, personnel, etc., pose a threat to farming. Fencing to prevent entry of crabs, animals, and birds is a common management measure resorted to now. Disinfection of water in reservoir ponds coupled with the practise of zero water exchange systems helps in preventing pathogen entry through water.

To avoid contamination from personnel, tyre-baths, foot-baths, and hand-washing are provided. The WTO has also made it mandatory to document the health history and disease status of importing and exporting countries.

Regulations in shrimp farming

The dynamics of Indian shrimp farming were always controlled by the enthusiasm of the enterprising farmers. Unlike other sectors of food production, shrimp farmers always went ahead of the scientific community in India and welcomed ideas and technology from foreign experts. The need for regulations in the sector was felt in the early 90's itself, and the supreme court verdict in 1996, in response to a public interest litigation (PIL), banned all forms of aquaculture other than traditional farming within the coastal regulation zone (CRZ) and stipulated compulsory registration of all farms by the Aquaculture Authority. Under the Environmental Protection Act, 1986, the Aquaculture Authority was set up in 1997 to regulate the sector, with its headquarters in Chennai. Considering the need for stronger legislation to safeguard the interests of all the stakeholders in the coastal areas along with the preservation of the fragile ecosystem, the government of India passed the Coastal Aquaculture Authority (CAA) Act, 2005. The authority is empowered by the provisions of the Act, Rules, and Guidelines to regulate coastal aquaculture and to ensure sustainable development without damaging the ecosystem. The authorities can make regulations regarding the construction and operation of farms within the coastal area; inspect the farms for ascertaining environmental impacts; register them; order the demolition of polluting farms, etc. It will be the agency to fix standards in the sector regarding inputs like seeds, feed, additives, chemicals, drugs, etc. used on the farm, in addition to ensuring protection of both ecologically and socially sensitive areas from being converted to aqua farms. According to the Act, all coastal aquaculture farms should be registered with the authorities, usually for a period of 5 years. Construction of new farms within 200 m of the highest high tide limit is prohibited in the coastal regulation zone. However, farms constructed before the enactment of the CAA and non-commercial research farms by the government agencies are permitted to operate. The authority has a District Level Committee and a State Level Committee to verify applications for registration of the farms which are disposed in a time-bound manner. Furthermore, the authorities can collect samples from the farms, analyse them, close down facilities for unsustainable practices, and recommend the punishment of individuals involved. The authority issues guidelines for sustainable aquaculture practices. It has prohibited the use of 20 pharmacologically active substances and set residual levels for permitted substances. The management of wastewater is another major concern. It is mandatory for farms with more than 5 ha of land to install an effluent treatment system, and the authorities have set different water quality parameters at discharge points in estuarine areas and coastal marine waters. Farms with more than 40 ha of area need to conduct an Environmental Impact Assessment at the planning stage and should have an Environmental Monitoring and Management Plan.

Conclusion

It is natural for pathogens and bacteria to be present in shrimp ponds. They might not even lead to any diseases for healthy shrimp with strong immune systems. Therefore, it is important to take good care of shrimp gut health and work to bolster their immune systems. This can be achieved by using the right feed additives. An innovative solution from Provet is Pathostat Blu.

Pathostat Blu is a Unique and Optimised combination of Tannins, Polyphenols, Mucilage, *Cynodon dactylon* extract, Curcumin, Tricholine citrate, Allicin, Thymol, Potassium diformate, Formic acid, and Minerals for improving the health and performance of shrimp.

01 KURINJI FLOWERS-NEELAKURINJI

This Queen flower blooms once in 12 years:

The botanical name for Kurinji, which is a bright purple-blue bell-shaped flower, is *Strobilanthes kunthiana*. The Kurinji flowers grow on bushy shrubs, which are about eight or ten feet in height on the hill slopes of the Western Ghats at an altitude of 6000 to 7000 feet, and during the blossoming season are seen carpeting the mountain slopes.

Origin:

Out of the five segments of Sangam Landscapes (Kurinji, Mullai, Marudham, Neidhal & Paalai in Tamil Nadu), Kurinji represents the mountainous regions where the flower Kurinji abundantly blooms.

In the Munnar region of Anamalais, there is a population of *Strobilanthes kunthiana* showing an alternate flowering cycle of 12 years. The flowering of this population of neelakurinji is mainly in the Mattupetty-Kannimala region. The gregarious blooming in this distinct population occured in the years 1990, 2002, and 2014.

Reports of blooming of neelakurinji in years, not in synchronisation with the major bloom had created some confusion in 1990. Some naturalists expressed doubt about the taxonomic identity of this population.

It was later discovered that these are distinct populations of *S. kunthiana* that follow an alternate cycle.

The next blooming in Mattupetty region will be in the year 2026. Apart from these, every year there used to be a sporadic flowering of certain neelakurinji plants here and there in the pastures of Munnar.

Blossoming once in 12 years, Kurinji flower is abundantly available in the Shola Forests of the Western Ghats in South India. Though Kurinji is found to blossom in Ooty, Yercaud hills, and some parts of Kerala, it is seen as a carpet covering the mountains, predominantly in Kodaikanal, which is the Princess of Hill Stations in South India.

Plan a visit to Kodaikanal in the coming season to enjoy the phenomenal beauty of Kurinji flowers, giving you an experience of life time which no one can afford to miss. Else you will need to wait for another twelve long years to get a spectacular glimpse of the queen flower !

02 WELCOMING CHEETAHS IN INDIA

Project Cheetah-Inception:

The global population of Cheetahs has dropped by over 90%. Experts think that leaves only about 10,000 left in the wild. Once a common animal found on five continents, their range has dwindled to just a few isolated pockets. Years of human population growth have resulted in habitat loss, a shrinking prey base, and poaching from livestock farmers who see these highly specialized predators as pests.

Laurie Marker, the founder of Cheetah Conservation Fund (CCF), Namibia, an international non-profit, helped the Indian and Namibian governments with the relocation effort.

Eight Namibian Cheetahs have arrived in India in an ambitious project to reintroduce the spotted creatures that have divided wildlife experts after the big cats' local extinction decades ago. After nearly 70 years of extinction, the Indian conservationists floated the idea of rehabilitating the big cats.

After repeated attempts to bring back the Cheetah in India since 1952, India finally signed a pact with Namibia to reintroduce the animal in July 2022, when the Supreme Court ruled that African Cheetahs, a different subspecies, could be settled in India at a “carefully chosen location” on an experimental basis. Two helicopters carrying eight Cheetahs reached Palpur, near Kuno National Park in Madhya Pradesh on the 17th of September, following their arrival in Gwalior from Namibia in a special plane.

Officials say the project is the world's first intercontinental relocation of Cheetahs, the planet's fastest land animal. The five females and three males were moved from a game park in Namibia on board a chartered Boeing 747 dubbed “Cat Plane” for an 11-hour flight.

Each of the animals, aged between two and five and a half, was fitted with a satellite collar to monitor their movements. They will initially be kept in a quarantine enclosure for about a month before being released into the open forest areas of the park.

The big cat's Origin:

One of the oldest of the big cat species, with ancestors dating back about 8.5 million years, cheetahs once roamed widely throughout Asia and Africa in great numbers. But today, only about 7,000 remain, primarily in the African savannas.

The present-day scenario:

The Cheetah is listed globally as “vulnerable” on the International Union for Conservation of Nature (IUCN) Red List of Threatened Species. It is “critically endangered” in North Africa and Asia.

For the first time since 1952, wild Cheetahs are living in India. The Cheetahs coming from Africa are slightly different from the Asian ones that were widespread in India. Those died out due to hunting and human population growth. There are very few Asian Cheetahs remaining, mostly in Iran.

When the Cheetah runs again, **grasslands** will be **restored**, **biodiversity** will increase, and **eco-tourism** will get a **boost**. Twelve Cheetahs from South Africa are currently waiting to be sent to India's Kuno National Park. But experts also fear that the lack of enough area and prey base for the African Cheetahs in Indian habitats might pose challenges. They say that it is ironic that our focus on conservation is on a species that went extinct in the 1950s rather than those which are on the verge of going extinct in a few years.

Challenges to Over come:

The main challenge that's facing the Cheetah as a species today is their habitat loss. Increasing their life span helps in reducing stressors and understanding what the diseases are. But it's not just the Cheetah; it's the Cheetah within a system where there are people, there's livestock, and there's wildlife, and we've got to make all that work. We cannot sit back and hope that species like the Cheetah will survive on their own without our help. Their ultimate survival is all in human hands.

While most conservationists feel that this is a case of misplaced priorities and that India should instead be focusing on preserving the already existing cat species and their habitats, some argue that Cheetah reintroduction could save grasslands, otherwise largely ignored by conservation policies. Another point to note is that Kuno Wildlife Sanctuary, which has been prepared and assessed for the establishment of a second population of Gujarat's Asiatic Lions imperilled by inbreeding and disease, has become the site for the reintroduced Cheetahs, which had left the fate of our Asiatic Lions suspended in uncertainty.

Based on the available evidence, it is difficult to conclude that the decision to introduce the African Cheetah in India is based on science. Science is being used as a legitimising tool for what seems to be a politically influenced conservation goal. The question is, does India have the room, resources, and skill to host another beautiful big cat when all its other species are already fighting a losing battle?

BENEFITS OF EATING CHICKEN

- » Helps build muscles
- » Keeps your bones healthy
- » Relieves stress
- » Reduces PMS symptoms
- » Helps boost testosterone levels
- » Boosts immunity
- » Promotes Heart health

Calf-A-Year Awarness Program, Baduria, 24 Parganas South - 20th September

The Awarness Program was held at the Milk Collection Centre with Prani Mitra, a Self Help Group.

Infertility and Calf-A-Year Camp, Dakshingram Birbhum-6th September

The Farmers Group Meet was held at Uma Gosain Dugdha Samity

CGM at Silchar, Assam A.I. Camp-7th September

The Customer Group Meeting was aimed at rendering product knowledge and the effective benefits of our products to the customers.

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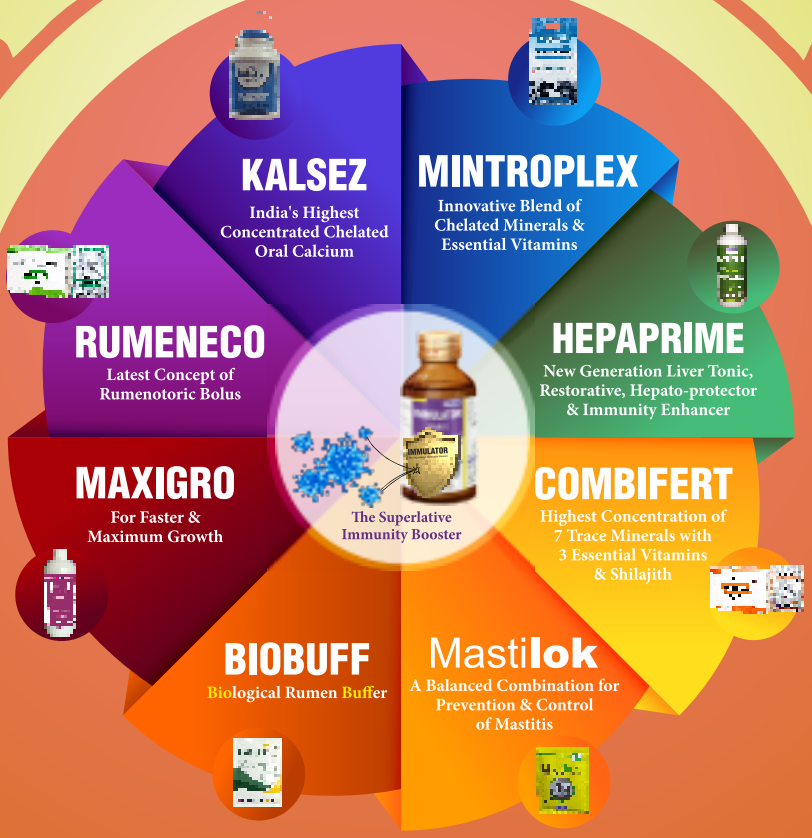
Happy Navratri, Durga Puja & Diwali

May the Goddess of Power Bless with Everything You Aspire.



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For further information, please write to:

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