



PROPULSE

Thank You Very Much!

Dear sir/madam,

It has been a great Financial Year **2022 - 2023** for our business and you have been a great part of that.

We, at Provet, wish to express our sincere gratitude and are grateful to you for providing us with the opportunity to be a reliable solutions provider for your business.

As we enter the new Fiscal Year **2023 - 2024**, we look forward to rolling out more solutions for your business needs, and we sincerely hope you will keep sharing your insights with us.

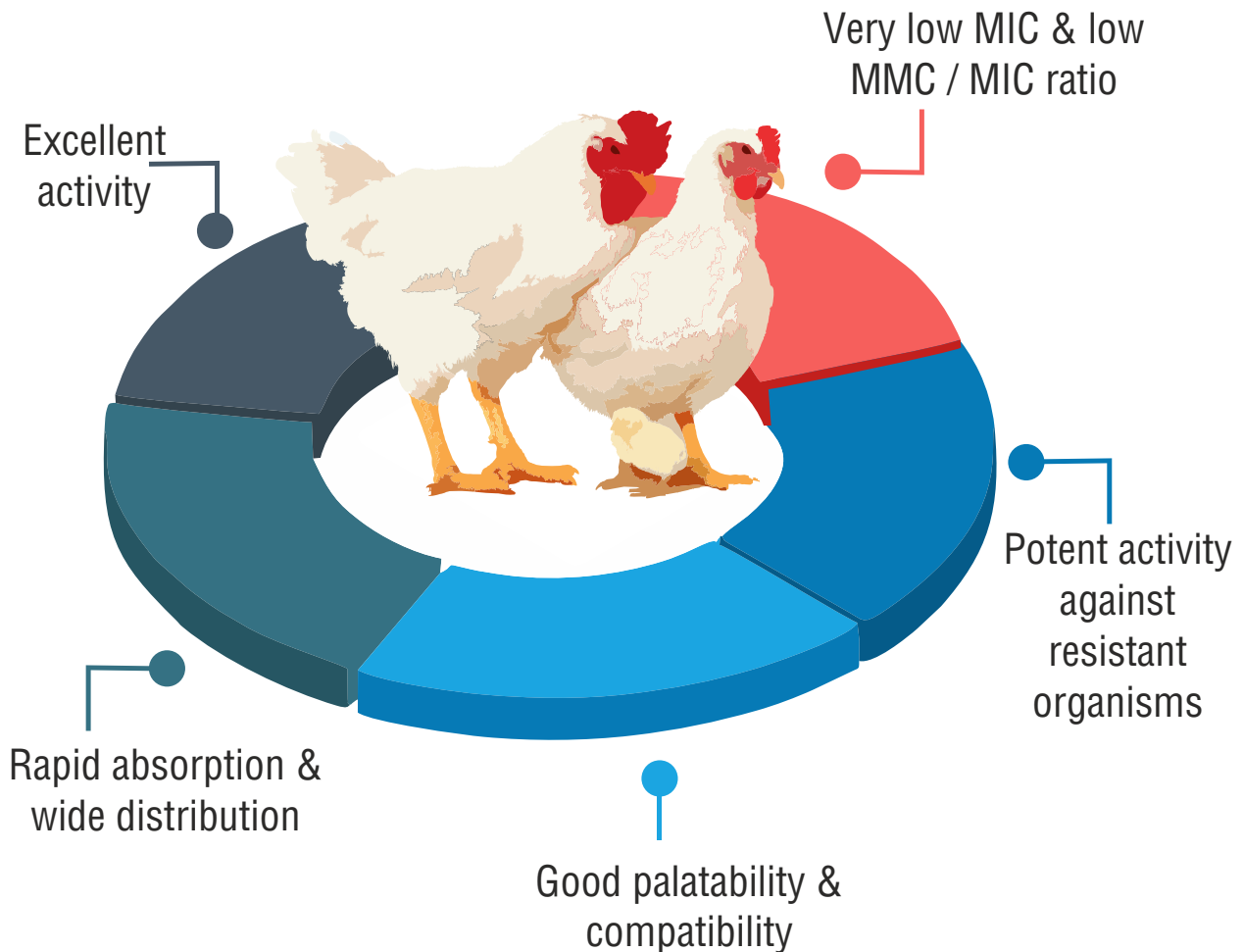
Together let's make the **FY2023-2024** yet another successful and memorable business year and we look forward to associating with you for many years to come.

With Best Regards,
Team Provet





TYLVATEC[®] SOLUBLE



For Effective Prevention and Treatment of Respiratory & Enteric Diseases and for Improved Performance & Productivity

“Best in Class” Antimycoplasmal





12th INTERNATIONAL POULTRY SHOW AND SEMINAR 2023, DHAKA

One of the South Asia's biggest poultry show, and technical seminar was held in Dhaka, Bangladesh, from March 14th through March 18th, 2023.

The WPSA-Bangladesh Branch (WPSA-BB) has been experimenting with novel ideas and concepts, advancing scientific research, awarding funding, establishing model farms, educating farmers, commemorating World Egg Day and World Poultry Day, and participating in policy lobbying.

Businesses that deal with breeding and genetics for chicken, feeds and nutrition, housing and management, health and sanitation, disease diagnostics and biologics, waste management and recycling, processing, machinery and equipment, and other businesses took part in the big event and displayed their goods and services.

At the event, where leading poultry production houses like Paragon Group, Nourish Group, Kazi Group, and other top animal healthcare manufacturers made their presence known, the concerned professionals, including scientists, researchers, and academics, participated in the technical seminars where they shared their excellent knowledge and information with everyone.

The lecture during the technical seminars covered conventional agricultural methods, biosecurity theories, disease control, and sustainable chicken production.

Provet's participation at the event:

Dr. Sulav Chetia (Assistant General Manager, Marketing) participated in the event to explore the business opportunities for Provet Pharma in the international market, with Bangladesh being a good resource area and gateway to the openings in other countries.

We had a good interaction with the professionals of the industry, manufacturing companies, channel partners and technical experts. The majority of those who attended the event were very complimentary of the gathering, which was pleasant. The efforts of the organisers have been instrumental in completing this programme on a successful note.



Dr. Bilal, Paragon Group



Mr. Shah Fahad Habib, Planet Agro



Dr. Bilal, Paragon Group



Mr. Shakhawat Hossain, Bio Care Agro



Dr. Tusar Chowdhury, Doctors Agrovvet



Kazi Farm Team



Mr. AKM Sayeed, CEO-Avon Group



Mr. Anjan Khaleed, MD-Nourish Group



Mr. Anwar Hossain, BIMCO Animal Health



Mr. Jayanta Das gupta, Square Pharmaceuticals

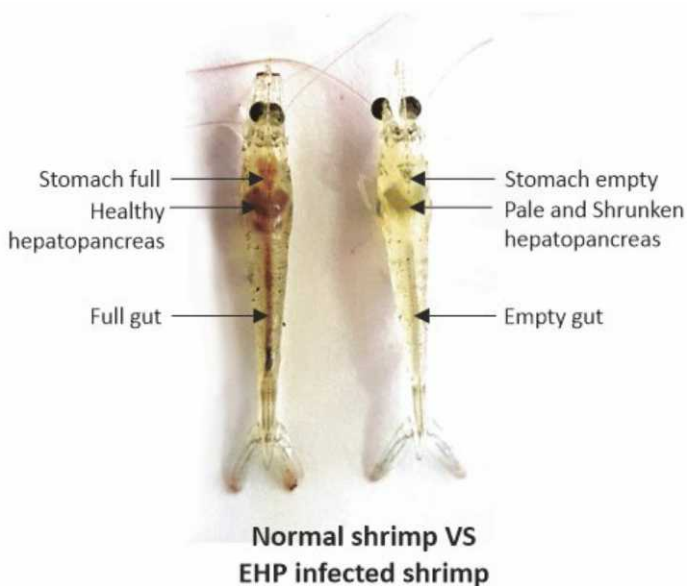
MANAGING ENTEROCYTOZOOM HEPATOPENAEI (EHP) – A RISK FACTOR IN PENAEUS VANNAMEI SHRIMP FARMING

What is EHP

EHP is a yeast-like fungus belonging to a group called “Microsporidia”, which are obligate intracellular parasites. Microsporidia are ubiquitous pathogens and are important components of terrestrial and aquatic ecosystems worldwide. Enterocytozoon hepatopenaei (EHP) is found in the hepatopancreas cells of shrimp and this parasite causes microsporidiosis disease. Although the disease doesn't cause mass deaths, it makes shrimp grow slowly and even stop growing despite a large consumption of feed. Shrimp with EHP can only reach an average size of 4-5 grams after 100 days of farming.

EHP disease condition

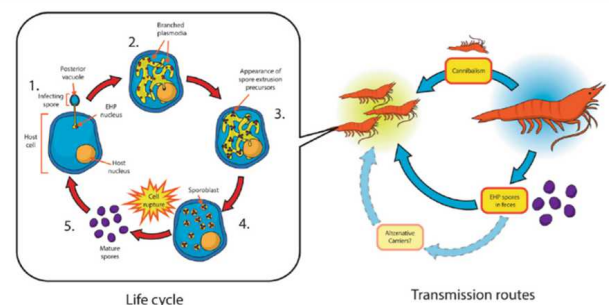
Shrimp infected with EHP grow slowly and have a soft shell and pale hepatopancreas. There is currently no cure for this disease. EHP is confined to the shrimp hepatopancreatic tubular cells. Since the main organ affected in shrimp is the hepatopancreas, it is most likely that the digestive functions are hampered and this would in turn affect the digestive and absorptive functioning of the hepatopancreas resulting in poor growth and immunity.



Retarded growth of *Penaeus vannamei*

How EHP is transmitted

EHP could be transmitted directly from shrimp to shrimp by the oral (horizontal) route (Tangprasittipap et al., 2013). EHP does not require an intermediate host. Infected animals can release spores that enter the environment by the decomposition of the dead animal, cannibalism, scavenging etc. Infected hepatopancreatic cells and intestinal epithelial cells generally slough off and degrade within the digestive system, allowing spores to be released with the faeces which will remain infective for some time depending on environmental conditions. Vertical transmission of microsporidia has been also reported in some crustacea such as *Crangonyx* sp. (groundwater amphipod), by infection of gonads (Stentiford, 2014). Hence, possibility of vertical transmission of EHP could also be a possibility.



Schematics illustrating the life cycle and transmission routes of EHP. (Source: Chaijarasphong et al., 2020)

Control of EHP

There is no drug for the control of EHP infection in shrimp. Hence, better management practices (BMPs) and proper biosecurity is the only way forward to keep this parasite away from the rearing system. The most important measure is to prepare ponds appropriately as per the BMP protocols to ensure that the pond is free from EHP spores before the seed is stocked. The EHP spores have thick walls and cannot be easily inactivated even with high levels of chlorine. After every harvest, it is extremely important that the ponds are disinfected and thoroughly dried to make sure that the EHP spores in the ponds along with their carriers are destroyed before stocking ponds. Application of lime (CaO) at the rate of 6 tons per hectare, followed by thorough ploughing and maintaining moist conditions for about a week to raise the soil pH to 12 has been also suggested for the disinfection of ponds.

Preventive Measures

Shrimp infected with EHP does not show visible symptoms, which may delay treatment and spread the epidemic. Currently, there is no effective method to treat EHP. Implementation of biological measures from breeding to farming will help to prevent EHP.

» PL management

- Buy seed from only registered shrimp hatcheries.
- Confirm with PCR tests that the PL is not infected.
- Ensure no EHP contamination by live feed like Artemia, polychaete worms etc.

» Instrument disinfection

- The equipment in the field and the nursery must be disinfected before use.

» Environment and water quality management

- Increase sewage discharge capacity to avoid deterioration of the water quality in the pond.
- Add probiotics to the water to avoid the proliferation of pathogens or bacteria.
- Avoid inappropriate use of medicine, lest it causes hepatopancreatic damage.
- Providing adequate time (at least 3-4 weeks) for the ponds to dry after every harvest.
- Application of lime (CaO) at the rate of 6 tons per hectare, followed by thorough ploughing and maintaining moist conditions for about a week to raise the soil pH to 12.
- Adjust stocking density to moderate level.
Stock 60 - 70 Nos./sqm.

» Disease management

- Use good feed at the early stage of the stocking to enhance immunity.
- Dead shrimp should be removed as possible to avoid cross-infection.
- Use high-quality SPF shrimp PL (based on PCR testing protocols).

PATHOSTAT® BLU

Unique Combination of Antiviral, Antibacterial and Antifungal Phytobiotics

Pathostat Blu is a Unique and an Optimized 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 Shrimps.

» Benefits

- Improves feed intake.
- Improves gut health by eliminating all kinds of pathogens.
- Rejuvenates the damaged hepatopancreatic cells and improves the digestibility of feed.
- Improves nutrients absorption, reduces mortality and enhances survival rate.
- Improves daily weight gain and reduces FCR.
- Maintains bacteriostatic and bactericidal effects against Gram positive and Gram negative bacteria.
- Has antiviral and antifungal properties and is effective against WSSV, EHP, WFS and other diseases.

» Recommended Usage

For prevention: 10 -15 grams per kg of feed (once in two days in last feed of the day)

For control: 15 – 20 grams per kg of feed (Twice in a day for one week followed by once in two days)

Or as advised by an Aquaculture expert



Efficacy of **MINTROPLEX ULTRA** on Growth and Molting in Shrimps

Introduction:

Molting helps shrimps to increase their size and weight and it is repeated throughout their life cycle. Therefore, farmers always want to stimulate shrimps molting to improve the productivity and quality of shrimps when harvested. Besides, molting helps to increase resistance to bacteria and viruses. Lack of minerals will make molting difficult leading to stunt and slow growth of shrimps. Therefore, macro and micro nutrients must be supplied at adequate levels to support optimal growth and molting efficiency.

Objective of the Trial:

To study the efficacy of **MINTROPLEX ULTRA** on growth & molting in shrimps. **MINTROPLEX ULTRA** is a nutritional supplement, containing various minerals in ionic form, which plays a major role in various functions of the body and growth. Improper ratios of Na, K, Mg and Ca minerals lead to osmotic stress, which has a cascading effect on the growth and survival of shrimps.

Trial Protocol:

MINTROPLEX ULTRA was used @ 5ml/kg of feed continuously for 7 days. It was mixed with feed half an hour before feeding.

Pond History:

Ponds were reported with slow growth and molting issues.

Trial Summary:

Period : 22/12/2022 to 30/12/2022
Location : Kavali, AP
Pond Size : 1.50 acres
DOC : 60
Stocking Density : 2 lakhs/1.50 acres
Avg. Individual Weight : 6.5 g
Daily Feed Intake : 85 - 90 kg



Before application of
MINTROPLEX ULTRA



After application of
MINTROPLEX ULTRA

Trial Results:

After 7 days of application, there was a significant improvement in survival percentage, feed intake, molting process, and growth of shrimps. It also helped in improving the water quality parameters of the pond.

Growth Performance of Shrimps:

Parameters	Control Pond	Trial Pond-1	Trial Pond-2
Average Initial Weight (g)	6.50	6.40	6.50
Average Final Weight (g)	7.90	8.70	8.70
Weight Gain (g)	1.40	2.30	2.20
DWG (g/day)	0.20	0.32	0.31
Survival (Percentage)	Approx. 46 percentage	Approx. 81 percentage	Approx. 80 percentage

Conclusion:

Based on the trial results, it can be concluded that **MINTROPLEX ULTRA** proves to be effective in encountering mineral deficiency during molting, thereby improving the overall performance of shrimps.



VIV ASIA 2023, THAILAND

VIV Asia is the biggest and most complete feed to food event in Asia, dedicated to the world of livestock production, animal husbandry and all related sectors, from feed production to animal farming, breeding, veterinary, animal health solutions, slaughtering of meat, processing of fish, egg, dairy products and more. Over 1,200 exhibiting companies had joined the event attracting a gathering of industry professionals from more than 120 countries. The show took place from 8th- 10th of March 2023 at IMPACT in Bangkok. The largest show in the animal healthcare sector, VIV ASIA, takes place every two years in Bangkok, Thailand.

Representing Provet Pharma, Mr. Arun Shah (Senior Manager- International Business) attended VIV Asia 2023 to connect with our esteemed international and domestic distributors and clients in an effort to broaden our worldwide reach and boost our international business. Numerous conversations had taken place on our current solutions and forthcoming new research and development initiatives. Numerous queries about our brands came from other nations, as well as from Indian clients who showed a keen interest in them.



A 21 YEAR OLD BTECH GRADUATE, PANI PURI WALI'S SUCCESS STORY

There are many youngsters who begin their entrepreneurial dreams by opening a humble food or tea stall. Amongst them is Tapsi Upadhayay, 21, a BTech graduate, who doesn't worry about what the society thinks of her and has opened her own pani puri stall near Tilak Nagar Metro Station in Delhi.

She says that many people ask her why she is selling pani puris after graduating, and some even ask her to go back home as it is not safe for a woman to be on the streets.

Tapsi, who is a student at IITM college, Janakpuri, and hails from Uttar Pradesh's Meerut says that her aim is to provide people good, healthy, guilt-free street food at affordable prices.”

Upadhayay rides a Royal Enfield Bullet motorcycle with her stall attached to it. Calling herself 'BTech Pani Puri Wali, she-



shares that many naysayers ask her why she is selling golgappas after doing BTech and tell her it isn't a suitable job for girls. She says she doesn't pay heed to any of them.

At her stall, she only offers pani puris that have been air-fried rather than in oil. She doesn't use maida or refined flour to make the puris, and coriander and cumin in their raw forms to make the water. She claims that the chutney she uses is made with tamarind and organic jaggery.

Before this business, she had her own restaurant providing North Indian food in Bangalore, while she was an undergraduate student at St Joseph's University in the city. She had to shut it down as the pandemic struck.

Currently, Upadhyay along with about 20 others, mostly students not older than 25 years old, run four stalls in West Delhi, but those serving the snack are women. This, she says, is due to their focus on women empowerment.

Tapsi wants to provide people nutritious cuisine and expand her menu of healthier alternatives.

Whatever form it takes, pursuing your dreams is worthwhile.

Janak Palta Who Lives a Zero-Waste Life

No Shopping, No Garbage & No Power Bill



She never goes shopping, does not throw away garbage, doesn't waste water, and doesn't even get an electricity bill. Meet one-of-a-kind woman Janak Palta, who can easily be called Odisha's 'Queen of Sustainability'. The 74-year-old has been living the zero life for the past 12 years.

What's so special about her?

And the fascinating part is that she has transformed her home so that it can provide her with everything, and she doesn't have to step out for any of her needs. Imagine having never to go out to buy anything. Surreal, right? This is called living the 100% life and here's how it can be achieved.



Firstly, she grows her own organic produce of vegetables, pulses, rice and even spices in her garden, which has 160 trees and 13 crops. She cooks her food and heats water in solar cookers; she generates fuel from old newspapers and uses the same energy for lights and cooking.

The zero-waste household generates no electricity bill. A windmill powers the house along with 50 other houses in the vicinity. She also converts old newspapers into bricks and uses them to power the kitchen in the absence of the sun. Several media houses have covered Palta and her magical home. She has learnt this way of life from Indian tribes and her house generates zero waste, energy, and problems.

As a teenager, Janak Palta McGilligan had a near-death experience and underwent open heart surgery at the age of 17. With a newfound respect for life, she dedicated her life to mother earth's well-being. Back in 1992, when she was invited to Rio De Janeiro for the first Earth Summit, she learned about global environmental problems.

In 2011, after her husband Jimmy McGilligan died, she moved to their home in Sanawadia village near Indore. And then, she kept her promise to the environment. Palta then transformed her home and made it completely sustainable.

An inspiration for all

Janak is the founder and director of an Indore-based non-profit 'Jimmy McGilligan Centre for Sustainable Development' and the former director of Barli Development Institute for Rural Women. The institute enables women to become agents of positive social change.



Under her guidance, more than 1,50,000 youths and over 6,000 rural and tribal women from over 1,000 villages have been trained in solar cooking and organic farming. Lovingly called 'Janak didi', she welcomes guests to give them tips on sustainable living. In 2015, she was also conferred with the Padma Shri for her work for society.

She has also spoken at the UN about her journey as an environmentalist. She represented India at the UN for a high-level forum on sustainable development goals. She was described as the 'Green Hero' by India's Energy and Resource Institute (TERI). She also serves as a member of Solar Cookers International.



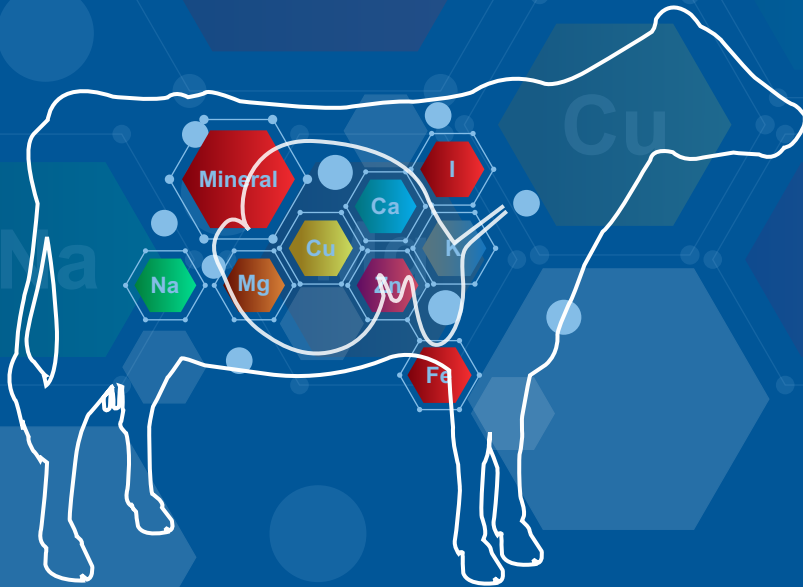


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MINTROPLEX™

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Innovative Blend of Chelated Minerals, Vitamins & Essential Amino Acids



- » Increases Production
- » Enhances Immunity
- » Improves Fertility

Chelated Minerals

- Ensure Better Bio-availability of Trace Minerals
- Optimise Overall Health & Reproductive Performance

Vitamins & Amino Acids

- Act as Co-factors & Help in Better Nutrient Metabolism
- Enhance Activity of Defence Cells & Disease Resistance
- Improve Production, Reproduction, Growth & Cell Repair

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