



Sustainable Aquaculture

Converting Trash To Shrimp Improves Aquaculture Sustainability And Reduces Pollution



ABOUT US

Prajakt Life Pvt. Ltd. was established in 2005 by a team of aquaculture expertise. Our name symbolizes our main value and the secret of our success: a stable professional knowledge, dedication, integrity and strong team work. The company is dedicated towards the sustainable aquaculture with a strong and innovative research and development programs. The team has an experience of over 15 years in the field of aquaculture. The R&D is consisting of technical experts with 25-30 years of experience in probiotic and prebiotic formulations. We are proud to be one of the pioneers to develop unique and innovative products like pH reducer by pure probiotic base, Salinity tolerant probiotics, Nitrite reducer and probiotics for White Feces Disease etc., which has an amazing performance in aquaculture.

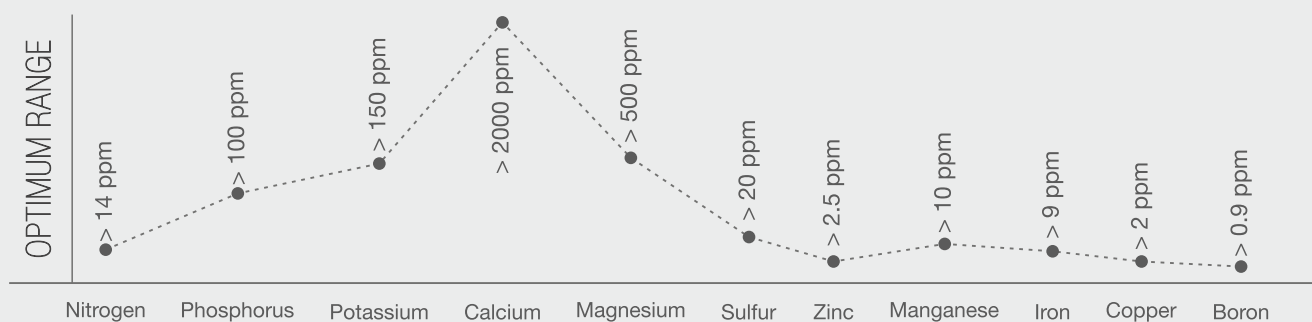
We are doing lab based service to the farmers, in which, we are testing both water and seed quality. We developed our own indigenous disease diagnosis kit for Aqua diseases like WSSV, EHP, EMS, IHHNV and Vibrio. Currently, we are having two Rt PCR labs and one water quality lab. We are also doing LAB CONSULTANCY SERVICES across India. So far, we did one water quality lab and three Rt PCR labs. With our knowledge and experience, we are into the Poultry and Agriculture business.

QUALITY TEST FOR SOIL & WATER

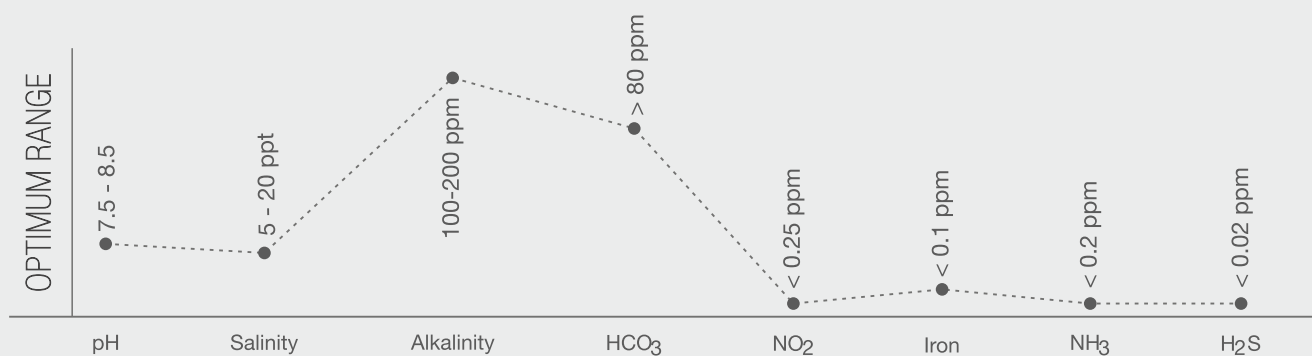
► SOIL - OPTIMUM PARAMETER

| | |
|-------------------------|-----------|
| Soil pH | 6.5 - 7.5 |
| Electrical conductivity | <1 mS/cm |
| Organic matter | >1.5% |

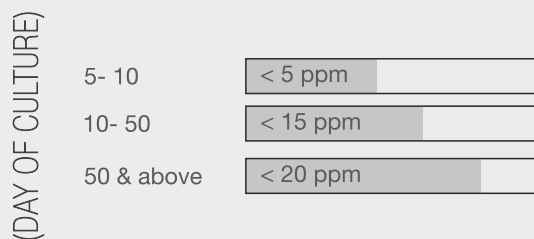
► SOIL - NUTRIENT PARAMETER



► WATER - OPTIMUM PARAMETER



► DISSOLVED ORGANIC CARBON (DOC) - OPTIMUM RANGE



BLIND FEED CHART

(FOR ONE LAKH SEED)

The chart below represents 27 days blind feed for one lakh seed stocking

| DOC | FEED CODE | 7AM | 1PM | 7PM | TOTAL FEED (200gm in acre) | CUMULATIVE FEED (gram) |
|-----|-----------|------|------|------|-------------------------------|---------------------------|
| 1 | 1 | 700 | 700 | 700 | 2100 | 2100 |
| 2 | 1 | 770 | 770 | 770 | 2310 | 4410 |
| 3 | 1 | 840 | 840 | 840 | 2520 | 6930 |
| 4 | 1 | 910 | 910 | 910 | 2730 | 9660 |
| 5 | 1 | 980 | 980 | 980 | 2940 | 12600 |
| 6 | 1 | 1060 | 1060 | 1060 | 3180 | 15780 |
| 7 | 1 | 1130 | 1130 | 1130 | 3390 | 19170 |
| | | | | | | 19170 |

| DOC | FEED CODE | 7AM | 11AM | 3PM | 7PM | TOTAL FEED (300gm in acre) | CUMULATIVE FEED (gram) |
|-----|-----------|------------|------------|------------|------------|-------------------------------|---------------------------|
| 8 | 1 + 2 | 800 + 125 | 800 + 125 | 800 + 125 | 800 + 125 | 3200 + 500 = 3700 | 3700 |
| 9 | 1 + 2 | 600 + 400 | 600 + 400 | 600 + 400 | 600 + 400 | 2400 + 1600 = 4000 | 7700 |
| 10 | 1 + 2 | 500 + 500 | 500 + 500 | 500 + 500 | 500 + 500 | 2000 + 2000 = 4000 | 11700 |
| 11 | 1 + 2 | 300 + 800 | 300 + 800 | 300 + 800 | 300 + 800 | 1200 + 3200 = 4400 | 16100 |
| 12 | 1 + 2 | 100 + 1100 | 100 + 1100 | 100 + 1100 | 100 + 1100 | 400 + 4400 = 4800 | 20900 |
| | | | | | | | 20900 |

| DOC | FEED CODE | 7AM | 11AM | 3PM | 7PM | TOTAL FEED (400gm in acre) | CUMULATIVE FEED (gram) |
|-----|-----------|------------|------------|------------|------------|-------------------------------|---------------------------|
| 13 | 2 | 1300 | 1300 | 1300 | 1300 | 5200 | 5200 |
| 14 | 2 | 1400 | 1400 | 1400 | 1400 | 5600 | 10800 |
| 15 | 2 | 1500 | 1500 | 1500 | 1500 | 6000 | 16800 |
| 16 | 2 | 1600 | 1600 | 1600 | 1600 | 6400 | 23200 |
| 17 | 2 | 1700 | 1700 | 1700 | 1700 | 6800 | 30000 |
| 18 | 2 | 1800 | 1800 | 1800 | 1800 | 7200 | 37200 |
| 19 | 2 | 1900 | 1900 | 1900 | 1900 | 7600 | 44800 |
| 20 | 2+3 | 1700 + 125 | 1700 + 125 | 1700 + 125 | 1700 + 125 | 6800 + 500 = 7300 | 52100 |
| | | | | | | | 52100 |

| DOC | FEED CODE | 7AM | 11AM | 3PM | 7PM | TOTAL FEED (500gm in acre) | CUMULATIVE FEED (gram) |
|-----|-----------|-------------|-------------|-------------|-------------|-------------------------------|---------------------------|
| 21 | 2 + 3 | 1500 + 450 | 1500 + 450 | 1500 + 450 | 1500 + 450 | 6000 + 1800 = 7800 | 7800 |
| 22 | 2 + 3 | 1200 + 875 | 1200 + 875 | 1200 + 875 | 1200 + 875 | 4800 + 3500 = 8300 | 16100 |
| 23 | 2 + 3 | 1000 + 1200 | 1000 + 1200 | 1000 + 1200 | 1000 + 1200 | 4000 + 4800 = 8800 | 24900 |
| 24 | 2 + 3 | 700 + 1625 | 700 + 1625 | 700 + 1625 | 700 + 1625 | 2800 + 6500 = 9300 | 34200 |
| 25 | 2 + 3 | 400 + 2050 | 400 + 2050 | 400 + 2050 | 400 + 2050 | 1600 + 8200 = 9800 | 44000 |
| 26 | 2 + 3 | 100 + 2500 | 100 + 2500 | 100 + 2500 | 100 + 2500 | 400 + 10000 = 10400 | 54400 |
| 27 | 2 + 3 | 2850 | 2850 | 2850 | 2850 | 11400 | 65800 |
| | | | | | | | 65800 |

(Feed code No.1 = 28Kg) + (Feed code No.2 = 83Kg) + Feed code No.3 = 47KG = Total Feed = 158Kg

*DOC (Day of Culture)

FEED CHART

The below chart includes percentage feed for animal body weight, check tray maintenance total feed for 80% survival with DOC (*Day of Culture)

| DOC | ABW (Gms) | Check tray maintenance / hrs Below 0.4/h | Above 0.4-1/hect. | Check tray timing hrs. | % of feed | 80 % survival daily total feed (Kg) |
|---------|-----------|---|-------------------|------------------------|-----------|-------------------------------------|
| 30-35 | 3 - 4 | 4 | 3 | 2.45 | 7.5 | 17-20 |
| 35-45 | 5 - 7 | 5 | 4 | 2.30 | 5.4 | 20-23 |
| 45-55 | 8 - 9 | 6 | 5 | 2.15 | 4-3.5 | 25-26 |
| 55-65 | 10-12 | 7 | 6 | 2 | 3.3-3 | 27-29 |
| 65-75 | 12 - 14 | 8 | 7 | 1.45 | 2.9-2.7 | 29-31 |
| 75-85 | 14 - 16 | 9 | 8 | 1.45 | 2.7-2.8 | 31-35 |
| 85-95 | 16 - 18 | 10 | 9 | 1.45 | 2.7-2.6 | 35-37 |
| 95-105 | 18 - 20 | 11 | 10 | 1.30 | 2.5-2.4 | 36-38 |
| 105-115 | 21 - 23 | 11 | 10 | 1.30 | 2.4-2.3 | 40-42 |
| 115-125 | 23 - 25 | 12 | 10 | 1.30 | 2.3-2.2 | 42-44 |

*ABW (Average Body Weight)

Feed & Survival Calculation Formula

Total Feed = Number of Animal stocked x Average Body Weight (ABW) x Feed Percentage

$$\begin{aligned} \text{For ex: Total Feed} &= 1,00,000 \text{ (Stocked)} \times 10 \text{ gm (ABW)} \times 3 \text{ (\% feed)} \\ &= 30,000 \text{ gm} \text{ ----- } 30 \text{ Kg} \end{aligned}$$

$$\text{Survival Calculation} = \frac{\text{Total Feed}}{\text{ABW} \times \% \text{ feed}}$$

$$\begin{aligned} \text{For ex: Survival Calculation} &= \frac{24,000 \text{ gm (Total Feed)}}{\text{ABW (10gm)} \times 0.03} \end{aligned}$$

$$= 80,000$$

$$= \frac{80,000 \times 100}{1,00,000 \text{ (No. of animal)}}$$

$$= 80\%$$



Water Quality And Sludge Maintenance

Sludge formation in pond caused by over feeding, algal crash and faeces of animal. Sludge increases the organic carbon in pond and affects the water quality. Optimum ranges are mentioned below:

Dissolved Organic Carbon (DOC)

| | |
|-----------------------------|----------|
| 5-10 (Day of culture) | < 5 ppm |
| 10-50 (Day of culture) | < 15 ppm |
| 50 & above (Day of culture) | < 20 ppm |

If it increases the level mentioned, decreases the DO level of pond, which in turn increases the *Vibrio* load of water. *Vibrio* species are part of the natural microflora of wild and cultured shrimps, but it become opportunistic pathogens when the situation prevails. The major species cause diseases in aquaculture are *V.harveyi*, *V.parahaemolyticus*, *V.alginolyticus*, *V.anguillarum*, *V.vulnificus*. *Vibrio* prevails when the aquaculture system has excess organic load, plankton crash and via untreated water into the system. Vibriosis are usually associated with multiple etiological agents, and cause diseases like tail necrosis, shell disease, red disease, loose shell syndrome and white gut disease (WGD).



Water & Soil Probiotics

PRO-VICTER Water and Soil Probiotics

Our product PRO-VICTER (soil and water probiotics) consists of beneficial bacteria and enzyme mixtures which reduce the prevalence of pathogenic bacteria. Our product one gram contains one million colonies of, aerobic, facultative, anaerobic naturally occurring bacteria like *Lactobacillus acidophilus*, *Bacillus subtilis*, *Bacillus licheniformis*, *Bacillus pulvis*, *Bacillus cereus* and enzymes like amylase, protease, lipase. The product will help in decomposition of organic waste, eliminate toxicity and improves water quality. PRO-VICTER improves growth rate, FCR and productivity.

How pro-victor works:

Beneficial bacteria in PRO-VICTER utilize the organic sludge in the pond bottom. The enzymes in PRO-VICTER break down the sludge, and releases the nitrogen. The released nitrogen enhances the development of plankton.

Usage

- 500-1000 gms / one hec for one-meter water depth for every 7-10 days.
- Up to salinity - 500-1000 gms / one hec for one-meter water depth for every 7-10 days.
- 20-35 salinity - 700 g.ins - 1.5 kg / one hec for one-meter water depth for every 7-10 days.
- Above 40 salinity - 1.5 kg - 2 kg / one hec for one-meter water depth for every 7-10 days.
- If luminescence bacteria - 500-1000 gms / one hec for one-meter water depth for every 3 - 4 day.

Package size : 1 Kg



Moulting and growth

Growth

Growth and moulting are dual physiological process which always goes together in all crustaceans life history, and this physiological process is the most critical phase of crustaceans.

Maxi grow

For Perfect Moulting

MAXI GROW is natural, non-toxic enriched with nucleotides, yeast extract (*Saccharomyces cerevisiae*), algal protein, probiotics, enzyme, vitamins, minerals and amino acids. It acts as an immuno-stimulator and reduces the animal stress. This healthy mix reduces the incidence of disease / stress, improves immune system, helps in animal digestion, act as feed attractant and helps in improving FCR and biomass.

Moulting

Moulting is a hormonal phenomenon which goes together with growth in crustacean life cycle. Required amount of minerals, amino acids and vitamins are essential for the animal to moult. Minerals plays a major role on the cultivation of shrimps. General function of minerals are :-

- 1) Constituents of exoskeleton
- 2) Balances the osmotic pressure
- 3) Structural constituent of tissues
- 4) Transmission of nerve impulse
- 5) Muscle contractions



Dosage :

L. vannamei / P. mondon:
5 to 10 gm / 1 kg of feed

Package size : 500 Gms

Directions for use:

Mix the MAXI GROW with clean water and apply to the feed. Then dry the feed for 20 minutes. Coated to feed with oil binder.

Minerals serve as an essential component for enzymes, vitamins, hormones, pigments, co-factors in metabolizes, catalysts and enzyme activator. Shrimp can absorb or excrete minerals directly from the aquatic environment via gill and body surface. The dietary requirement of minerals is largely dependent on the mineral concentration of the aquatic environment, in which, the shrimp is being cultured. There are twenty recognized inorganic elements which perform essential functions in shrimp body. Some minerals are required in considerable quantities, and are termed as macro minerals, while the minerals which are required in less amount referred as micro-minerals. These micro-minerals have greater role in shrimp aquaculture.

This chart represents the normal moult pattern of Shrimp life history.

MOULTING CHART FOR SHRIMP

| AGE [DAYS] | | MOULTING TIME | TOTAL MOULTING TIME | MOULTING LEAD TIME [DAYS] | ADG | BOD YWEIGHT [GM] | ANIMAL COUNT [PER KG] |
|---------------------|----------|------------------|---------------------------|---------------------------------|-------|------------------------|-----------------------------|
| YOUNG SHRIMP | 1 - 7. | 7 | 16-18 | 1 | | 0.66 | 1500 |
| | 8 - 15. | 4 | | 2 | 0.066 | 1.00 | 1000 |
| | 16 - 30. | 5 | | 3 | 0.200 | 2.00 | 500 |
| FATTENING SHRIMP | 31 - 45. | 2 | 4-6. | 7 | 0.333 | 5.00 | 200 |
| | 46 -60. | 2 | | 8 | 0.222 | 10.00 | 100 |
| ADULT SHRIMP | 61 - 90. | 3 | 3-4. | 9 | | 16.66 | 60 |

Water Hardness and Moulting problems:

Water Hardness plays an important role in shrimp aquaculture. Calcium and magnesium are the common sources of water hardness. Calcium and magnesium are essential in the biological process of shrimp.

The optimum range of hardness

1.) Saline water - 2000 ppm to 6000 ppm

2.) Fresh water - 600 ppm to 1000 ppm

Low hardness problems:

- When the hardness below 500, shrimp mortality will start.
- Phytoplankton population will increase. Simultaneously, DO level drops at night.
- At low hardness, the NO₂ level will increase

High hardness problems:

If the hardness is more, the mineral reposition on shrimps, will occur and the shrimp moulting affected.

- DO saturation will also be low.
- Blue green algal population will increase.

Remedy:

Application of Automin or Legent Min / for mineral reposition water exchange + Legent Min application

Dosage: Recommended dosage by consultant.

COUNT ON IT
FOR BETTER
COUNTS.





Recover shrimp from muscle cramp

Mineral Deficiency & Solving Moulting Problem

GOLDEN MOUL contains water soluble minerals & micro minerals such as calcium, potassium, magnesium, phosphorous, copper, cobalt, iodine, iron, manganese selenium and zinc. This product is used as a feed supplement which helps to recover shrimp from muscle cramp syndrome due to stress, mineral deficiency and moulting problem. It also controls shell & muscle related problems, and assists in osmoregulation.



Dosage:

P.monodon / L. vennamei: 10 gms / 1 kg pellet feed. Mix the GOLDEN MOUL with clean water and apply to the feed, then dry for 20 minutes. Coat the feed with oil binder.

Package size : 500 Gms.



[pH]

pH (potential of hydrogen) is a measure of the hydrogen ion concentration of a solution. Solutions with a high concentration of hydrogen ions have a low pH and solutions with low concentrations of H^+ ions have a high pH.

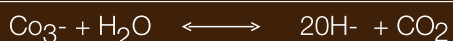
The negative logarithm of the hydrogen ion activity H^+ $pH = -\log [H^+]$

It is an important chemical parameter to consider because it affects the metabolism and other physiological processes of culture organisms.

If pH,

| | |
|---------------|---------------------------------------|
| < 4 | Death |
| 4-5. | No reproduction |
| 5-6. | Slow growth |
| 6.5-7.4 | Poor growth |
| 7.5-8.2 | Good growth |
| 8.2 - 9 | Poor Growth |
| 9.5 and above | Pathetic condition for Shrimp & Death |

Photosynthetics



Respiration



HIGH pH

When the pH is high

1) Increase of NH_3 even 0.2 will become toxic

The increase of pH along with temperature more than 33°C

1) Affect the moulting cycle

2) Running mortality Syndrome (RMS)

The increase of pH along with Salinity more than 35 ppt

1) Influence the growth of Blue green Algae

2) Dinoflagellate will produce toxin and foam

3) Increase of *Vibrio* will affect the animal.

Increase of pH affects the alkalinity,

1) Influence reverse alkalinity cycle which affect the moulting of animal (No Moulting)

Reverse alkalinity :

When the pH less than 8.3, CO_3 : HCO_3 ratio is 1:3, if the pH increases, the ratio will change, and the level of CO_3 will be more than HCO_3 . It affects the animal moulting. This cycle called as reverse alkalinity cycle.

Remedy : Check PH



Reduces Stress

Natural pH Reducer

Managing high pH in aquaculture is difficult, needs specific management. We designed our product Check-pH, consists of concentrated carbon source, beneficial bacteria, enzymes and minerals. The beneficial bacteria will maintain the water quality and reduce pH along with carbon source and enzymes. It will stop the reverse alkalinity cycle thereby stop moulting problems.

Usage Directions:

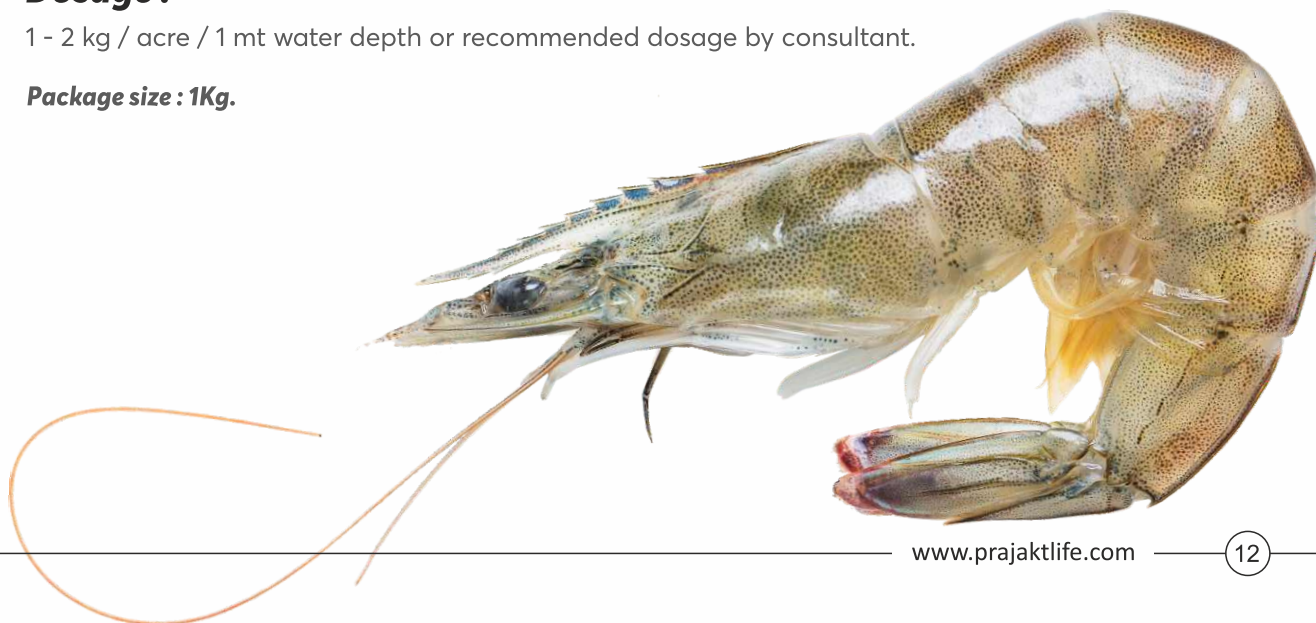
Mix the Check pH - 1 - 2 kg with 25 Lts of water.

Soak it for 5-24 hours and spread the solution throughout the pond

Dosage :

1 - 2 kg / acre / 1 mt water depth or recommended dosage by consultant.

Package size : 1Kg.





Better Water Quality

Good Shrimp and Fish Growth

A1 Shell contains micro minerals, calcium, potassium, magnesium, phosphorus, copper, cobalt, iodine, iron, manganese, selenium, zinc with water soluble vitamins and amino acids.

It helps in control osmoregulation, prevents shell & muscle related problems, improves shell formations, animal pigmentations and assists in animal moulting & recovery.

Package size : 1 Kg

Dosage :

Mix A1 Shell 1 Kg / 1 acre with pond water or sand and spread the solution throughout the pond surface

1) P.monodon / L.vennamei: 5 - 10 gms / 1 Kg of pellet feed. For fish - 1 Kg / 1 ton of feed

2) Mix the A1 Shell with clean water and apply to the feed then dry the feed for 20 minutes. Coat the feed with oil binder.



A Concentrative Mineral Mixture for Better Water Quality of Aquaculture

Our Legent Min is a concentrative mineral mixture contains micro minerals, calcium, potassium, magnesium, phosphorus, copper, cobalt, iodine, iron, manganese, selenium, zinc with water soluble vitamins and amino acids. It improves water quality and maintains plankton level. Our product is highly consisting of water soluble concentrative mineral mix with more than 80000 us/cm EC (Electrical conductivity) value. Legent Min maintains adequate concentration of mineral ions in water, and helps to achieve desired levels of alkalinity and hardness.

It also helps in buffering pH fluctuations, and maintains pH between 7.5 to 8.5. Legent Min prevents body cramp and running mortality symptoms (RMS), and improves growth performance and moulting.

For Fish:

Minerals are important for fish growth and metabolic functions. It act as a component of body fluids, co-factor for enzymatic reactions and facilitate homeostatic mechanisms. Hence, mineral nutrient is essential in fish aquaculture. Our best mineral formulation consist of all micro & macro minerals, will helpful for better growth of fish.

Dosage:



5-10 kg / acre/once in every 7-10 days for every moulting cycles.



As a feed supplement - 1 kg / 1 ton feed

Package size : 10 Kg



White Feces Cure

Recently, the shrimp industry affected by white feces disease (White-Comander - White feces-Cure) caused by gregarines, EI-11) (Enterocytozoon hepatopenaei), Vibrio and its toxin which causes huge economic losses. White Feces Disease (WFD) will affect animal growth, survival considerably and increases FCR.

Remedy:

Treatment measures are taken by both Feed supplement & Water applications

FEED SUPPLEMENTS APPLICATION

Morning 6 am feed supplement:

White-Comander (White Feces- Cure) Powder form - 5 gms /1 Kg Take 5 gms of (White-Comander) with 20 gm jaggery and 50 ml of raw milk/24-hour fermentation mix with feed, dry for 1 hour, and then coated the feed with gel. White Commando - (Paste form) 15- 20 gm /1 kg feed with equal amount of water, then coated with feed.

➤ **Morning 10.30 am feed supplement:**

Nature Acid (3 ml) mix with feed using gel

➤ **Afternoon 2.30 pm feed supplement:**

Perfect bind 30 ml-50 ml (or) any fish oil 30 ml -50 ml /1 kg mix with feed.

➤ **Evening 5.30 pm feed supplement:**

MAXI-GROW 10 gms /1 kg mix with feed using gel or with any immuno-stimulator.

Recommended dosage by consultant.



HOLISTIC SOLUTIONS FOR SUSTAINABLE AQUACULTURE



Black & Brown gill infections

Black & Brown gill infections is mainly due to fouling organisms, protozoa and bacteria settle on the gill surfaces of the shrimps, and cause inflammation of tissues. These fouling organisms become problematic while the pond condition is not good, which cause slow growth and lowered the survival of shrimp.

Remedy: Clear Gill

Clear Gill

A Bio Chemical Composition to treat Brown and Black gill Problems.

Clear Gill is a mixture of high quality bio-chemical compound. It controls the black & brown gill problems, reduces the bacterial load, and improves water quality and animal health.

Dosage:

Use 300 - 400 ml/ acre or as per the consultant recommendation.

Usage Directions:

Mix the Clear Gill with 40 liters of water and spread the solution throughout the pond surface.

Package size : 500 MI

Dosage: Recommended dosage by consultant.



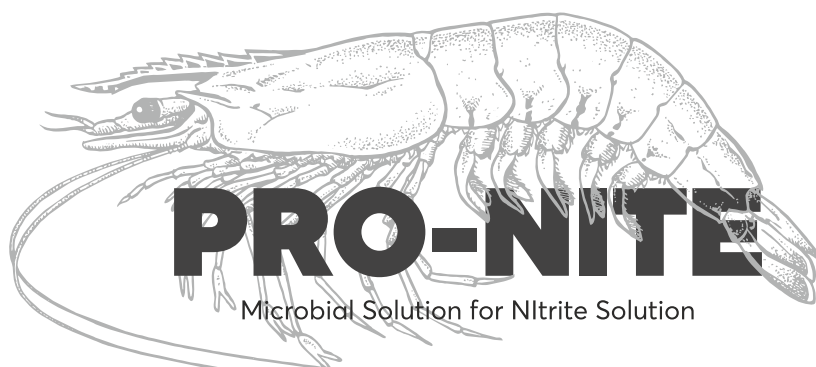


Microbial solution for Nitrite solution



Nitrite

Nitrite in aquaculture system is due to feed waste, feces and plankton crash. The excess nitrogen will be converted into ammonia (TAN, NH_3 , and NH_4^+), which is then converted into nitrite (NO_2^-), simultaneously into nitrate (NO_3^-) by denitrifying bacteria. But under low pH condition, the converted nitrite becomes toxic to the animal.



If pH is low (7.4 - 7 or less), will be toxic for low NO_2^- level. Hence, the role of probiotics in de-nitrification cycle is important to reduce toxic effect of NO_2^- . Our product Pro-Nite contains Thiobacillus, Micrococcus, Nitrosomonas, Nitrobacter and enzymes. Pro-Nite will reduce toxic nitrate, H_2S , increase DO , improve feed intake and growth rate.

Dosage:



Apply Pro-Nite 500 - 1000 gms / hec / 1 meter of water column



100 gms of Pro-Nite / one acre

Usage Directions:

Can be mixed with sand, and broadcast over pond recommended dosage by consultant.

Package size : 500 Gms.

Other way to reduce nitrite toxicity

If pH is low, nitrite becomes toxic, Hence, we can increase pH in order to reduce nitrite toxicity.

Low pH remedy:

To increase pH - For DOC below 40 - Apply Agrilime (CaCO_3),
After 50 - 75 DOC - Apply Burnt lime (CaO)
After DOC 75 - End of culture - Shell lime / Quick Lime (CaO) & NaOH
Increase water exchange, apply zeolite

Dosage: Recommended dosage by consultant.



Dissolved Oxygen (DO)

Is the most important parameter in aquaculture. DO level in pond is depends on 3 factors.

- 01) Oxygen is not much dissolve in water and have only limited capacity to hold oxygen
- 02) Rate of oxygen consumption by animal, plankton and other organism in aqua pond.
- 03) Atmospheric oxygen diffusion in pond water (increased by aerator)

These factors cause changes in the DO level in aqua system. Generally, most aquaculture species will grow and thrive within a DO range of 5-12 mg/L (ppm). However, if DO level decreases below 4 mg/L, animal feel stress, stop feeding, and cause death.

Hyper-O₂

High Quality Oxygen Releaser

Maintenance of DO level is important to tackle the effect of nitrite (NO₂). Our product Hyper-O₂ contains high quality oxygen releaser which releases oxygen when applied in the pond. The product's oxygen stability (increased O₂ level) is maintained few hours after application. Hyper-O₂ increases dissolved oxygen level, assist the animal to recover from DO stress, and helps in animal moulting. It enhances the degradation of organic waste.

When to Apply:-

- Hyper-O₂ is act as an oxidizing agent which oxidises toxic gases in the pond.
- The animals are in stress and need more oxygen during moulting.
- Hyper-O₂ will help animal to relieve from DO stress and toxic gas.

Dosage:

500 gms to 1 Kg / acre / 1-meter water depth or as the consultant's recommendation.
1 Kg - 2 Kg / acre / 1-meter water depth for BOD and COD periods.

Usage Directions:

Mix the Hyper-O₂ only with dry sand and apply to the entire surface of the pond.

Package size : 1 Kg / 10 Kg / 50 Kg

Dosage: Recommended dosage by consultant.



Water Application for WFD

FIRST DAY :
Apply **WARRIER-80**
80-3.5 litre / acre (OR) Apply
WARRIER-80 50%-4.5 litre / acre

SECOND DAY :
Apply carbon source like
molasses (OR) Jaggery
fermented juice

THIRD DAY :
Apply **PRO-VICTER**
1 Kg / acre or any probiatle

Repeat all those applications once in 7-10 days - upto harvest

HOW IT WORKS:

WATER APPLICATION

WARRIER-80

An universal chemical kills opportunistic bacteria, parasite and fungi
Carbon source: Retain plankton source and helps in shrimp moulting

PRO-VICTER

Inhibit pathogenic bacterial growth and clear the pond bottom sludge

FEED SUPPLEMENT

WHITE COMMANDER contains probiotics, fermented using milk and jaggery which produces acids enzyme. It helps the growth of beneficial bacteria, WHITE COMMANDER do have antioxidant controls myotoxin, and toxin binder, binds pathogen toxin.

NATURE ACID contains propionic acid, ammonium hydroxide, formic acid and sorbic acid. It reduces animal gut pH and lysis the pathogenic microbe cell wall, enhances absorption and assimilation of feed, induces protein digestion, and prevents the parasitic infections.

MAXI-GROW is natural non toxic enriched feed supplement, contains algal protein, probiotics, enzymes, vitamins, minerals and amino acids. It act as an immuno-stimulator and reduces animal stress.

PERFECT BIND consists of 95% fat and 5% enzyme with enriched dietary nucleotides. During EHP infection, the animal loses its fat molecule. Most of our feeds are protein-based feeds, in order to retain the animal fat during EHP period, Right binder is the best product to use.



Ammonia

In aquaculture systems, understanding and controlling ammonia is critical, if it excessively accumulated will become toxic to the animal and the system. Toxicity will make the animal lethargic, and cause mortality. Ammonia is a by-product of protein. The main source of ammonia is excretion, feed waste and algal crash. These organic loads will settled in the bottom which produce ammonia by decomposition. Severity of ammonia will be more when the pH (7.5 - 8.2 or more) is more.

A Perfect Solution for Toxic Ammonia Pollution

If pH increases, even 0.2 ppm ammonia (NH_3) will become toxic to animal. Safe-AM will be great remedy for the problem. Safe-AM is a combination of Yucca Schidigera plant extract (saponin and glycol components), probiotics and enzymes.

This product can absorb 100-300 times of its own weight of toxic gases like ammonia, hydrogen sulphide. Safe - AM reduces ammonia stress, reduces the irritating odour, increases DO level and reduces pH fluctuations.

Dosage :



500 - 1000 gms of Safe -AM /
one acre / one ml Water column



100 gms of Safe -AM / one acre

Usage Directions:

Can be mixed with zeolite or wet sand and spread over the pond.

Dosage :

Recommended dosage by consultant.



Feed Binders

An Organic Binder

Promise-Gel is general binder gel which mainly helps to bind feed supplement with feed. Moreover, the bind gel consists of non-toxic enzyme like protease, amylase, lipase, phytase, essential amino acids and toxin binder. It helps to increase feed attraction & feed intake, and the enzymes in bind gel helps to improve digestion, improves immune system of the shrimp and fish, and improves biomass & FCR.

Dosage: Recommended dosage by consultant.

Dosage :



P. monodon / L. vannamei:
30 to 50 ml / 1 kg feed



1 ltr / 1 ton of feed. For best result,
continuous use is recommended

Usage Directions:

Mix the Promise-Gel with feed.
Dry the feed for 20-30 min.

Package size : 20 Lt.





Broad Spectrum Disinfectant

Cleanses the viruses/vibrio/parasite

Pond control consists of disinfectants like Potassium monopersulphate compound (Triple Salt). Sodium Dichloroisocyanurate, buffers, surfactant detergents, and descalants. The product cleanses all pathogens like viruses, vibrios, parasites and other pathogens. Our product is low toxic in nature, non staining and non irritant. Our product oxidizes the sulfur bonds in proteins and enzymes which disrupt the cell members of most organisms and the high detergency of the product effectively kills the pathogens.

Benefits

- Kills pathogens like vibrios, viruses and parasites.
- Reduces toxic bacterial load.
- Improves water quality.
- Prevents disease prevalence.
- Better survival and FCR.

Dosage

0.5-1 kg Hec, Regular application for every 10 days once.



Increases plankton stability / Microbial solution for nitrite / H₂S pollution

Basto ps control Nitrobacter, Nitrococcus, Thiobacillus, Rhodobacter, Rhodococcus

Benefits

- Reduces Toxic Nitrite and H₂S
- Maintains the Plankton Level.
- Increases D.O Level.
- Improves Feed intake and growth rate.
- Improves FCR and Survival rate.

Dosage

DOC 50:1-3 Litre/Acre, Above 50 DOC:3-5 Litre/Acre (or) as advised by your aqua consultant

Direction for use

It can be mixed with wet sand and broadcast directly over the ponds.



An Organic Acid For The Prevention Of White Feces Disease

Nature Acid contains propionic acid, ammonium hydroxide, formic acid and sorbic acid. It reduces animal gut pH and lysis the pathogenic microbe cell wall, enhances absorption and assimilation of feed, induces protein digestion and prevents the parasitic infections.

Dosage :



Mix 3-5 ml of Nature Acid with 30-50 ml of water and mix gently with feed and dry.



Mix 1-3 ml of Nature Acid with 30-50 ml of water and mix gently with feed and dry.

Storage :

Nature Acid should be stored in room temperature but keep away from light and heat. Don't expose below -5° C

Dosage :

Recommended dosage by consultant.

Package size : 1 Lt.



Disinfectant for bacterial infections

Warrier 80 contains Benzalkonlum chloride

Benefits

- Disinfectant for bacterial infections
- Solution for tail rot diseases, Heily diseases
- Solution for parasites, zoothaimilum and other algal attachments on shrimps/fish
- Improves water quality parameters

Dosage

1-2 ltr / acre at one meter depth of water Dilute Warrier 80 with water or sand and apply throughout the pond and aerate (or) as directed by aquaculture consultant.

Dosage: Recommended dosage by consultant.



Pond Bottom Cleaner

Aqua-zeolite contains mineral zeolite with organic waste degrading bacteria.

Our product promotes clean, healthy water and reduces water exchange.

It removes toxic ammonia, H_2S , NO_2 , unwanted toxin compounds and organic waste.

It helps to stabilize the pH in pond water

Dosage

- 10 kg per acre 1 - 40 doc weekly once
- 20 kg per acre 40 - 120 doc weekly once
- Recommended by an aquaculture consultant / expert

Dosage: Recommended dosage by consultant.



Easy plankton development

In the aquaculture pond, planktons are important for the stabilization of pond ecosystem and water quality. Both Nutrients and environment conditions are required for development of phytoplankton blooms. The major factors that prevent the phytoplankton development are nutrient deficiency from infertile soil, poor water quality, and unfavorable physical conditions such as pH, weather changes etc. The absence or poor plankton development in aqua ponds causes decrease in dissolved oxygen level, increases the rate of cannibalisms.

We recommend BLOOM BOOSTER for the easy development of phytoplankton to your aquaculture ponds.

Bloom Booster contain:

Essential organic liquid minerals and essential amino acids.

Benefits:-

- To increase the level of dissolved oxygen, and for the reduction of toxic gases like ammonia, nitrate, hydrogen sulphide in the pond.
- It stabilizes pond water quality, and lower the level of toxic compounds.
- Planktons are natural feed element for the animal, and planktons give natural ecosystem.
- Planktons act as a natural shelter for the animal, and in turn reduces the rate of cannibalisms, simultaneously improves the survival.
- Helps to increase and stabilize water temperature and pH.
- Reduces the load of pathogenic and un-wanted microbial populations by competing with available nutrients in the water.

Dosage :

1- 4 ltr / 1 acre of pond or recommended dosage by consultant.

Dosage: Recommended dosage by consultant.



A Concentrative Mineral Mixture for Better Water Quality of Aquaculture

Our Diamond Min is a concentrative mineral mixture contains micro minerals, calcium, potassium, magnesium, phosphorus, copper, cobalt, iodine, iron, manganese, selenium, zinc with water soluble vitamins and amino acids. It improves water quality and maintains plankton level. Our product is highly consisting of water soluble concentrative mineral mix with more than 80000 us/cm EC (Electrical conductivity) value. Diamond Min maintains adequate concentration of mineral ions in water, and helps to achieve desired levels of alkalinity and hardness.

It also helps in buffering pH fluctuations, and maintains pH between 7.5 to 8.5. Diamond Min prevents body cramp and running mortality symptoms (RMS), and improves growth performance and moulting.

For Fish:

Minerals are important for fish growth and metabolic functions. It act as a component of body fluids, co-factor for enzymatic reactions and facilitate homeostatic mechanisms. Hence, mineral nutrient is essential in fish aquaculture. Our best mineral formulation consist of all micro & macro minerals, will helpful for better growth of fish.

Dosage:

5-10 kg / acre/once in every 7-10 days for every moulting cycles.

As a feed supplement - 1 kg / 1 ton feed

Dosage: Recommended dosage by consultant.



LAB & EQUIPMENT





**Holistic Solutions For
Sustainable Aquaculture**



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