

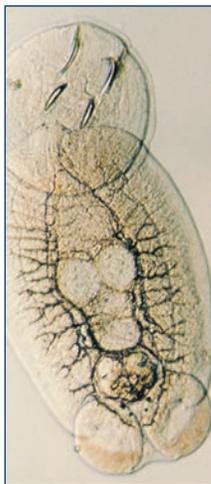
NutraParagone

Parasites are an integral part of any aquatic environment and can often be found on wild fish. In aquaculture, where usually conditions are sub-optimal, chances of infection are increased through raised stress levels in fish which directly affects their immune response.

Poor immune response reduces the ability of fish to fight pathogens and parasites. It gives parasites the opportunity to proliferate causing serious health issues and ultimately can prove fatal to the host fish if left untreated.

Chemicals such as hydrogen peroxides, formalin, malachite green and others may offer a short term solution against parasitic problems. In sea cages, bathing fish is a labour intensive and costly operation. Furthermore, although it usually brings temporary relief from parasites, the treatment also causes stress to the fish and increases the chances of future infections.

Many of these chemicals are not environmentally sustainable and most of them are prohibited for use in aquaculture systems and banned in many countries.



NutraParagone contains powerful natural compounds with antimicrobial, antibacterial, antiparasitic, antifungal and anthelmintic herbs. These may improve poor digestive function, alleviate worm and Candida infections and internal and external parasites (flukes).

Benefits:

- Chemical free, environmentally friendly, non-invasive and rapidly biodegradable
- Controls itch and other external protozoan, dinoflagellate, flukes and fungal diseases
- Controls the proliferation of pathogenic vibrio bacteria
- Works in fresh and salt water
- Safe and beneficial for shrimp and fish
- No residue and environmentally friendly

Use to: Eliminate or reduce external and internal parasites.

Nutra-MetaEnhance

The metamorphosis stage in fish larvae marks the transition to the definitive phenotype of all the body systems, such as; digestive system, visual and olfactory, skeleton, muscles, skin, pigmentation and behaviour. This transformation process from 'embryo' to fully developed fish demands high physiological and nutritional resources from the larvae. Therefore, if larvae arrive at this stage in a condition that is not optimal, its chances of survival deteriorate significantly.

Stress caused by sub-optimal nutrition, bacteria, environmental conditions and other factors is believed to be an important factor affecting larvae survival. It can lower immunity, which leads to increases in susceptibility of fish, prawn and shrimp to various specific and non specific infections.

Nutra-MetaEnhance, a unique combination of natural herbal extracts, reduces stress, improves immune response (immunomodulator) and helps in adapting to adverse environmental conditions.

Benefits:

- Higher larval survival rate by hepato-pancreas protection
- Effective feed utilisation through improved conversion rates
- Prevents stress-induced viral and bacterial infections
- Promotes growth for higher body weight gain
- Natural and safe with no side effects for shrimp and fish
- No risk of emergent antibiotic resistance
- Free from toxic chemical residue
- Works in fresh and salt water
- Environmentally friendly for broader spectrum use



Use to: Reduce stress and increase survival and growth during metamorphosis stages, grading and weaning.

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Nutra-Kol
NUTRITION SOLUTIONS



NutraGreen™

Natural health solutions
for aquaculture

ABOUT US

Nutra-Kol is a vibrant Australian company focusing on the nutrition and health of aquatic organisms. *Nutra-Kol* products include feed additives and natural health solutions for the aquaculture industry. These products are the result of a unique combination of expertise in marine biology and naturopathy. *Nutra-Kol* products are scientifically designed and tested in collaboration with commercial hatcheries, research and development centres, universities and fish farmers. The products are based on natural ingredients with the majority of them produced in Australia. *Nutra-Kol* is Western Australia based, supplying worldwide.

NutraGreen

Aquaculture production and trade is being limited by disease outbreaks, nutrition and low larval survival. Microbial disease activity has increased dramatically, along with the degree of intensification in larval production in aquaculture.

The development of drug-resistant fish pathogens has been reported from all areas of aquaculture. Microbial infections in fish and crustaceans are currently treated by dissolving higher quantities of broad spectrum, chemotherapeutic agents. Most of these antibiotics and drugs are now banned for use in EU, USA and many other countries.

The NutraGreen range of products are designed to overcome these problems. These products offer alternative herbal-compound based remedies. Natural plant origin products present a viable alternative to antibiotic and other banned drugs, being safer for the reared organism and humans, as well as the environment.

All NutraGreen products are based on 100% herbal extracts approved and listed for human use with the Australian Therapeutic Goods Administration.



NutraLive

Live food (rotifers and Artemia) is considered to be a vector for bacterial infections in marine larvae, resulting in reduced growth and survival. During the hatching and enriching process, bacterial numbers increase by 5-8 fold. These bacterial populations remain well established and are very hard to remove from within the nauplii by rinsing with freshwater. Some commercial synthetic disinfectant products are being used in some countries, however, most of them are banned for use in EU, USA and other countries.

NutraLive is a scientifically designed blend of herbal ingredients that effectively reduce bacteria, viral and fungal pathogens in live feed (*Artemia* and rotifers). *NutraLive* lessens and controls bacterial numbers during hatching and, when used in conjunction with ArtiKol live food enrichment or any other commercial enrichment, suppresses any bacterial blooms which would normally occur during the hatching and enrichment procedures.



Benefits:

- Increases vitality of freshly-hatched *Artemia* and rotifers
- Higher larva survival rate
- Effective feed utilisation through improved conversion
- Increases resistance to specific and non specific infections
- Prevents production losses during adverse environmental and management condition
- Natural and safe with no side effects for shrimp and fish
- No risk of emergent antibiotic resistance
- No residue and environmentally friendly

Use to: Reduce and suppress microbial pathogens in live feed organism culture.

NutraBrood Enhance

Broodstock are the key for any successful fish hatchery. Maintaining broodstock at good health and at optimum nutrition is vital for high quality eggs and larvae.

Hormone induced spawning is used in hatcheries where an environment significantly differs to a natural state, such as when inducing spawning out-of-season. Non-acute stress of hatchery environments may result in lower fecundity and larvae quality, higher deformities and lower stress tolerance.

NutraBrood Enhance is a natural combination of herbal extracts that are specifically designed to reduce stress and regulate the hormonal cycle. *NutraBrood Enhance* formulation includes adaptogenic, hepatoprotective, antioxidant and immunomodulator herbal extracts.

Benefits:

- Stimulates spermatogenesis in male fish and aid gonadal maturation and high egg viability in female fish
- Helps achieve natural viable spawns, especially out-of-season
- Improves egg quality and fecundity
- Aids better hormonal and cellular immune response
- Increases resistance to specific and non specific infections
- Enhances hepato-pancreas activity and thereby efficient digestion and assimilation of feed nutrients
- Maintains feed intake during inclement weather
- Natural and safe with no side effects for shrimp and fish
- No risk of emergent antibiotic resistance
- No residue and environmentally friendly

Use to: Support broodstock health and enhance gonadal development.

May assist with:

- Environmental and physical stress during and after spawning season
- Non-natural spawning or low egg producing broodstock
- Optimal broodstock maintenance
- Low sperm quality, sperm volume, cell concentration, sperm production and motility

