

100% Natural Algae

PHYCONOMIX

NATURAL PHYCOLOGICAL FORMULA

An exclusive product range which mirrors optimal larval diets encountered in the wild.



Pioneering Technology



Nutritionally Complete



Easy and Ready to Use



Meriden
ANIMAL HEALTH

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Introduction/Background

Shrimp and fish larval nutrition is generally poorly understood. Specific nutrients involved in optimal growth, survival and immunity can be missing in standard dietary regimens or at best, present at levels capable of negatively impacting on larval quality and quantity. It is generally accepted that essential fatty acids, phospholipids, vitamins, trace elements and carotenoids figure prominently in this scenario and delivery methods for such nutrients must also be optimal to ensure maximum delivery to target organisms.

The importance of optimal nutrition during the early periods of life is paramount in any living species. In aquaculture as with other animals, the young are vulnerable and adequate nutritional provision for fry and post larvae reduces risk of mortality and poor development.

Both shrimp or fish larve have a requirement for optimum nutrition and it has been shown that PHYCONOMIX can meet these requirements without the **need, cost, labour or disease risk** of having to produce algae within the hatchery.

PHYCONOMIX is a ready to use range of products, available in a liquid and powder form, designed to fulfill the nutritional requirements of growing shrimp and fish larvae.

Producing Algae can be costly & problematic!

- Algae are difficult to grow in mass production in hatcheries.
- Environment can be problematic with seasonal changes.
- Nutritional quality can vary widely.
- Generally only one species is grown in the hatchery.
- Crashing of algal cultures is a common occurrence.
- There is a lack of good algal technicians familiar with algal nutrient requirements.
- The end result is a nutrient deficient algal diet for both prawn and fish larvae.

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Meriden's Solution

A range of 100% natural algae based products, manufactured as a precision mixture engineered to fulfill the nutritional requirements of growing shrimp and fish larvae, known as



Meriden has combined its manufacturing skills and highly extensive research to develop an exclusive innovative range of ready to use algae products. All PHYCONOMIX products are a unique combination of natural uni-cellular algae. Each product mirrors the nutrient composition of dietary prey consumed in the wild, and are designed to fulfil the nutritional needs of growing Zoea and Mysis stages of Penaeid Shrimp, Crab, Marine and Freshwater Fish.

Product range

Powder range; available in 500g packs.	
PHYCONOMIX	SHRIMP PL
PHYCONOMIX	MARINE F
PHYCONOMIX	CRAB M
PHYCONOMIX	FRESHWATER CA
PHYCONOMIX	FRESHWATER COMPLETE

Liquid Range; available in 500ml packs	
PHYCONOMIX	SHRIMP ZM
PHYCONOMIX	MARINE L
PHYCONOMIX	CRAB Z
PHYCONOMIX	ROTIFER N



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What makes the **PHYCONOMIX** range of algae products different from naturally produced algae?

- No sea water is used, which offers you the certainty that PHYCONOMIX is free of any viruses or pathogenic bacteria, and is nutritionally stable & consistent.
- It is a totally exclusive product for the early days of larval rearing which mirrors the nutrient composition of dietary prey consumed in the wild.

How do we ensure that **PHYCONOMIX** is produced in the most natural yet secure way?

- Subterranean geologically filtered aquifer water from over 30 metres below the surface is mixed with commercial salt to acquire the perfect salinity.
- To guarantee sterility, this water is routinely sterilised every three days according to standard specifications.
- The facility is cleaned to pharmaceutical GMP standards.
- Only certain species of algae are cultured on-site. To prevent possible vectors of contamination, the site has no other fish, shrimp or shellfish aquaculture production on site or nearby.

Every step of the growing process ensures that the **PHYCONOMIX** range of products are free from contamination.

- **Step 1:** Algae is grown in self contained photobioreactors and harvested using airtight centrifuges to remove water and produce a thick concentrate.
- **Step 2:** This concentrate is immediately packed into sterile bottles, guaranteeing a fresh and pure product.
- **Step 3:** All packaging materials are selected to prevent leaching and protect the product during storage and transport.
- **Step 4:** The products are either refrigerated or dried to guarantee quality.

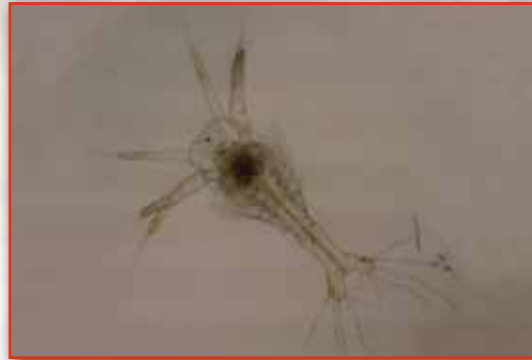
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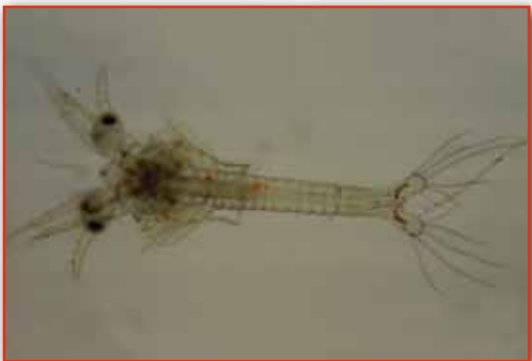
Visual benefits of **PHYCONOMIX**:



ZOE 1 enriched with Phyconomix



ZOE 1 control group



ZOE 2 enriched with Phyconomix



ZOE 2 control group



ZOE 3 enriched with Phyconomix



ZOE 3 control group

The pictures highlight that by using **PHYCONOMIX** the zoeal digestibility is much improved, so they will absorb nutrients at a quicker rate and grow faster. In Zoea 2, the pigmentation is much stronger than the control. In Zoea 3, the animals are very clean compared to control. Overall this indicates that the **PHYCONOMIX** groups are stronger.

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What are the main benefits to the hatchery of using **PHYCONOMIX**?

- Optimise the nutritional needs of target species
- Concentrated, storable and easy application method
- Enhances and enriches live hatchery feeds
- Reduces need for on-site monoculture algae tanks
- Improves fish and shrimp larvae survivability
- Reduces demands on labour time and equipment
- Superior larval quality and accelerated development
- Healthier, more resistant post larvae for on-growing
- High return on investment for hatcheries
- Eliminates nutritional inconsistency
- No risk of contamination
- Reduces Labour costs
- Increase productivity



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COMPATABILITY

This is a feed supplement that is suitable for all types of larval rearing facilities and the product is compatible with all types of feeds used in hatchery operations.

ADMINISTRATION INSTRUCTIONS

Mix thoroughly with clean, filtered seawater prior to addition to rearing tanks.

Visually check food availability and water clarity. If tank water colour is light, add more PHYCONOMIX according to specific aquaculture requirements and feed management protocols.

RECOMMENDED INCLUSION RATES

The inclusion rates will vary depending upon product and larval species, therefore please refer to individual product data sheet or label.

As situations vary from hatchery to hatchery; Meriden technical staff may be contacted for assistance in determining optimum and customized application rates for specific hatchery conditions & needs.

ORIGIN

Produced in the United Kingdom in FEMAS accredited production facilities.



Meriden
ANIMAL HEALTH

Meriden Animal Health Limited
Cranfield Innovation Centre
University Way, Cranfield Technology Park,
Cranfield, UK MK43 0BT
Tel: +44 1234 436130
E-mail: sales@meriden-ah.com



www.phyconomix.com • www.meriden-ah.com

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