



**Who We Are**

Reed Mariculture is the world's largest producer of marine microalgae concentrates. Our *Instant Algae*® larviculture feeds are used by over 500 hatcheries, universities, and marine ornamental operations in more than 70 countries around the world. We also produce zooplankton, copepods, and weaning feeds.

**Our Products**

Reed Mariculture's *Instant Algae* products are closer to nature than any other feed on the market. We produce whole-cell, whole-food microalgae feeds and enrichments from marine algae using proprietary processes. Our products provide fish, bivalve and shrimp hatcheries with clean, convenient, **long shelf-life** feeds that are superior choices to replace or supplement live microalgae. Our feeds ensure stable and rapidly-reproducing rotifer populations that offer rich nutritional value.

**Our Services**

We pride ourselves on our customer service and technical support. In addition to our expertise growing microalgae, we provide rotifer starter cultures (10 million to over 1 billion rotifers) and all the support necessary for customers growing their own cultures. We are also experts in shipping logistics, however remote, to your location. Our commitment to excellence will keep you coming back to Reed Mariculture.

Reed Mariculture Inc.

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# RotiGreen® Effective Greenwater Solutions

Greenwater is a critical component of most larval rearing systems from first feeding to a few days after weaning the larvae from rotifers. *Instant Algae*® RotiGreen greenwater feeds are concentrated, clean, easy to use, and very effective.

**RotiGreen Feeds provide:**

- Superior Water Coloring
- Larval Digestive System Support
- Antibacterial Activity
- Larval Nutrition Support – Full rotifer gut-load provides enzymes and partially digested and bio-available proteins and lipids.



Microalgae greenwater nutrition for larvae and rotifers

**Three greenwater formulas for your hatchery operation**

- 1 RotiGreen Nanno** – Traditional *Nannochloropsis* greenwater algae paste (Nanno 3600)—as effective as live *Nannochloropsis* (see Note A on reverse). Available frozen in 1 liter bags and 10 liter Cubitainers®
- 2 RotiGreen Iso** – *Isochrysis* paste for greenwater—as effective as live *Isochrysis* (see Note B on reverse). Available refrigerated in 950ml (1 quart) bottles and 10 liter Cubitainers. Effective for maintaining a high DHA nutritional profile and nutrient rich gut-load in larval tank rotifers.
- 3 RotiGreen Omega** – A blend of whole-cell high HUFA algae with a balance of DHA, EPA and ARA (may not be appropriate for larvae when inflating air bladders).

**The RotiGrow System**

A two-step rotifer feed and enrichment system employing two supplemental feeds that further enhance larval fish nutrition. All our feeds are produced using proprietary processes with 100 percent of the biomass composed of nutritionally rich blends of microalgae.

**STEP 1**

**RotiGrow and Nanno 3600™** — *Grow-out & Enrichment Feeds*

*Supports Pre-Enrichment and Higher Yields*

*Instant Algae* feeds are clean, high-yield rotifer feeds that provide pre-enrichment with high levels of polar lipid DHA, EPA and ARA, and also provide essential vitamins and carotenoids.

**STEP 2**

**N-Rich™**

*Full HUFA and vitamin enrichment plus "Whole-Cell" Nutrition*

*N-Rich* offers a unique blend of microalgae that provides a wide spectrum of essential nutrients, including high levels of protein, carotenoids, sterols and optimized vitamins C, A and D. *N-Rich* can raise the nutritional profile of enriched rotifers to meet the needs of any fish.

*(See Rotifer Comparison Table on reverse)*

**Additional Products for Nutrition Enhancements:**

**STEP 3**

**Cold storage and/or Gut Loading with N-Rich**

*Digestive and "Whole-Cell" Nutritional Support for Larval Fish*

*N-Rich High PRO* is a nutritionally balanced rotifer finishing feed that is easily digested when released into fish larval guts. It contains a blend of microalgae including *Pavlova* and *Isochrysis*. *N-Rich High PRO* offers an optimal fatty acid profile, plus carotenoids, sterols and the right amounts of vitamins A, D and C.

**STEP 4**

**RotiGreen™** — *Greenwater: Isochrysis, Nannochloropsis and DHA/EPA blends*  
**Greenwater to Promote Overall Fish Health**

RotiGreen greenwater (**RotiGreen Iso, RotiGreen Nanno** and **RotiGreen Omega**) further supports rotifer and larval nutrition in the larval tank to promote health and enhance survival.

**No other feeds are closer to nature or better for your rotifer, fish, and hatchery productivity.**

## Technical Data

### PHYSICAL DESCRIPTION/PROPERTIES:

Description:

**Concentrated Blend of Microalgae**

Appearance: **Viscous Green or Brown Liquid**

Algal size: **2-7 microns**

Algal Biomass<sup>1</sup>:

**Nanno** 180g DL/L

**Iso** 80g DW/L

**Omega** 170g DW/L

<sup>1</sup>Dry weight 80°C, 12h

## Packaging

1 Quart Bottle



10 Liter Cubitainer<sup>®</sup>



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# RotiGreen<sup>®</sup> Effective Greenwater Solutions

## FEED & HARVEST RATES

### Greenwater feeding

Optimal greenwater density (measured in *Nannochloropsis* equivalents) ranges from 125,000 cells/ml to 625,000 cells per ml, fed 2 to 6 times a day. This is equivalent to feeding RotiGreen Nanno at 2ml/1,000 liters to 10ml per 1,000 liters per feeding. RotiGreen Iso and RotiGreen Omega are less dense and require more paste.

Greenwater feeding rates are often correlated with rotifer density. The rotifers stocking densities in the examples above were 2 rotifers/ml and 15 rotifers/ml, respectively.

### Directions:

1. Defrost frozen RotiGreen slowly in a refrigerator overnight. RotiGreen can be poured directly into the larval tank, but pre-diluting is acceptable. Greenwater algae are usually added when rotifers are added.
2. Mixing and screening are not necessary. DO NOT BLEND; it is unnecessary and may damage the algae cells.
3. Feed according to the table below. Adjust dosage to meet the needs of your hatchery and larvae.

	RotiGreen Nanno/ Nanno 3600	Rotigreen Iso ( <i>Isochrysis</i> )	RotiGreen Omega*
<b>Light dose</b> (125,000 Nanno cells/ml)	2.0 ml/1,000 liters	4.5 ml/1,000 liters	2.4 ml/1,000 liters
<b>Heavy dose</b> (625,000 Nanno cells/ml)	10.0 ml/1,000 liters	2.0 ml/1,000 liters	12.0 ml/1,000 liters

\* RotiGreen Omega is a high HUFA greenwater and requires attention to the surface of the larval tank. May not be appropriate for larvae inflating air bladders.

## BIOMASS COMPOSITION

	RotiGreen Nanno/ Nanno 3600	RotiGreen Iso	RotiGreen Omega
Lipids <sup>†</sup>	15.8%	19.4%	20.3%
Eicosapentaenoic Acid (EPA) <sup>‡</sup>	27.3%	0.9 %	17.1%
Docosahexaenoic Acid (DHA) <sup>‡</sup>	nd	10.2 %	22.1%
Docosapentaenoic Acid (omega 6 DPA) <sup>‡</sup>	< 0.1%	1.5 %	0.2 %
Arachidonic Acid <sup>‡</sup>	3.3%	0.6 %	2.7%
Protein (Kjeldahl) <sup>†</sup>	62.7%	51.0%	55.2%
Carbohydrate <sup>†</sup>	18.0%	24.0%	19.6%
Ash <sup>†</sup>	3.5 %	5.2%	4.8 %

<sup>†</sup> Percent of Biomass Dry Weight; <sup>‡</sup> Percent of fatty Acids

### NOTES: Studies on the effectiveness of Instant Algae paste for greenwater applications

- A) Schwarz, Michael H., Craig, Steven R., Delbos, Brendan C. and McLean, Ewen (2008) "Efficacy of Concentrated Algal Paste During Greenwater Phase of Cobia Larviculture", *Journal of Applied Aquaculture*, 20:4, 285 – 294
- B) Muguet, Jean Benoit (2005) UC Davis: [http://www.oannes.org.pe/seminariopecespdf/FWD\\_GAA\\_article\\_layout.pdf](http://www.oannes.org.pe/seminariopecespdf/FWD_GAA_article_layout.pdf)

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