N-Rich® Enrichment Solutions for Every Need

Four standard blends to meet the needs of your hatchery:

1. All-in-One rotifer feed and enrichment: **RotiGrow Plus**
2. Gentle overnight, high protein enrichment: **N-Rich High PRO**
3. Rapid/high HUFA, high protein enrichment: **N-Rich PL Plus**
4. Very high HUFA enrichment: **N-Rich Ultra PL**

Special needs? Custom blends available on short notice.

N-Rich offers:

- **Complete Enrichment** — “Whole-cell, Whole-food” nutrition for rotifers and Artemia. 100 percent of biomass from microalgae
- **Bioavailable Nutrients from Microalgae** — Vitamins, minerals, carotenoids and enzymes
- **Optimum Lipid Class** — Bioavailable phospholipids and other polar lipids make up nearly 50 percent of enrichment lipids for rapid rotifer tissue enrichment and gut-load nutrition
- **Concentrated, Clean, Liquid Form** — Exceptionally clean and easy to use with minimal foaming or clumping, which means less time spent maintaining cultures
- **Shelf life** — four months, refrigerated

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)

**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.
FEED & DIRECTIONS

Directions for use:* A six-hour enrichment at 1,000 rotifers/ml is standard. Enrichment can be as short as 1 hour or longer than 8 hours depending on the enrichment target. Carefully monitor dissolved oxygen and maintain near saturation (above 16% partial pressure or 7ppm). Rinsing rotifers is usually not necessary. More protocol information at www.rotifersolutions.com.

Batch feeding doses:
1. Feed directly to the enrichment tank once every 3 hours.
2. Premixing is not necessary. DO NOT BLEND. Blending may damage algal cells.

Continuous feeding (preferred method):
1. Feed directly to the enrichment tank with a peristaltic pump.
2. N-Rich may be diluted with clean seawater and suspended with minimal aeration or “mini” aquarium pump.
3. Keep the feed chilled in an ice chest or small refrigerator.

<table>
<thead>
<tr>
<th>Feed Rate</th>
<th>Batch Processing</th>
<th>Continuous Feeding (per hour)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Start</td>
<td>At Hour 3</td>
</tr>
<tr>
<td>Moderate</td>
<td>0.4ml / liter</td>
<td>0.4ml / liter</td>
</tr>
<tr>
<td>Strong</td>
<td>0.6ml / liter</td>
<td>0.6ml / liter</td>
</tr>
<tr>
<td>Maintenance feeding</td>
<td>0.25ml / liter</td>
<td>0.25ml / liter</td>
</tr>
</tbody>
</table>

Choosing the right enrichment and dose:
Rotifer lipid content with 6 hour enrichment from RotiGrow Plus (see rotifersolution.com for more options)

Biomass Composition

<table>
<thead>
<tr>
<th>N-Rich</th>
<th>High PRO</th>
<th>PL Plus</th>
<th>Ultra PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applications</td>
<td>Moderate gut-load maintenance</td>
<td>Overnight 2-6 hr enrichment</td>
<td>Extreme DHA 2 hr enrichment</td>
</tr>
<tr>
<td>Composition of Biomass</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lipid (% of Biomass)</td>
<td>35%</td>
<td>44%</td>
<td>66%</td>
</tr>
<tr>
<td>DHA (% of lipids)</td>
<td>37%</td>
<td>41%</td>
<td>44%</td>
</tr>
<tr>
<td>EPA</td>
<td>5%</td>
<td>2%</td>
<td>0.5%</td>
</tr>
<tr>
<td>ARA</td>
<td>1.0%</td>
<td>1.0%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Total HUFAs</td>
<td>45%</td>
<td>45%</td>
<td>48%</td>
</tr>
<tr>
<td>Protein</td>
<td>38%</td>
<td>32%</td>
<td>18%</td>
</tr>
<tr>
<td>Carbohydrate</td>
<td>19%</td>
<td>15%</td>
<td>7%</td>
</tr>
<tr>
<td>Ash</td>
<td>8%</td>
<td>9%</td>
<td>10%</td>
</tr>
<tr>
<td>Dry weight Biomass</td>
<td>9%</td>
<td>9%</td>
<td>9%</td>
</tr>
</tbody>
</table>

* Standard doses are for the RMI 165 micron (0.18ng/rotifer) L-Type rotifer. Adjust dosage if your rotifers are larger or smaller. For enriching rotifers at densities up to 3,000 per ml increase feeding proportional to density.

Technical Assistance: Distributor:
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