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| salogoOL | **Sustainable Aquatics/Nutrition**  110 W. Old Andrew Johnson Highway  Jefferson City, Tennessee 37760  phone: (865) 262-0507  http://www.snextracts.com | SN Logo June 2017.png |

Guide to feeding adult zebrafish

Sustainable Aquatics is a commercial marine fish hatchery in Jefferson City, TN that breeds and grows more than 200 species of tropical ornamental fish for the aquarium industry. They are one of the largest suppliers of clownfish in the world. In support of their operations, they perform research on fish larval rearing, maturation diets, fish nutrition, and algae and rotifer culture. As a result of years of experience culturing many ornamental fish species, Sustainable Aquatics has developed several methods for improved fish husbandry. Key among these are improvements in fish nutrition that enable high-density fish culture with no disease or use of antibiotics. When Sustainable Aquatics was founded, they collected every fish feed on the market and fed them to countless tanks of young fish in controlled experiments. After analyzing their results, they concluded that most fish feeds are processed at temperatures that destroy important fats and antioxidants. They developed a new manufacturing process for preparing fish feed at low temperatures that avoids denaturing the critical components. In addition, SA has discovered that several dietary supplements can markedly improve fish health and reproductive performance. These include the amino sulfonic acid taurine, the mineral selenium, and the powerful antioxidant astaxanthin, all of which have been incorporated into Hatchery Diet and demonstrably improve fish health.

Scientists using zebrafish as an experimental model agree that nutrition is one aspect of zebrafish husbandry that needs further optimization (Monteiro et al. 2018). A standardized diet is needed to meet the demands of researchers whose experiments require reproducible measurements of subtle metabolic activity (Lawrence et al. 2012, Delomas & Dabrowski 2018). Diets also are preferred that improve the convenience of zebrafish culture like once a day feeding, elimination of *Artemia*, consistent production of healthy vigorous adults (Watts et al. 2016), and production of fish with strong immune systems able to resist disease.

SA has discovered that feeding fish broodstock with their new cold-processed Hatchery Diet feed has enabled them to achieve their goals for producing intense fish color, excellent health, large size, reproductive fertility, and vigorous growth rate. With an effective protein to fat ratio of 3:1 and the best antioxidants and vitamins, SA Hatchery Diet provides complete nutrition for most aquarium animals, including freshwater and marine fishes, corals, and invertebrates.

Guaranteed Analysis: Ingredients:

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| Crude Protein (min): 52% Crude Fat (min): 16% Crude Fiber (max): 2% Ash (max): 13% Moisture (max): 6% | Krill, Fish, and Squid Meal  Wheat Gluten  Potato Starch  Fish Oil  Spirulina  Astaxanthin  Garlic Oil |

Hatchery Diet comes dry in 4, 8, 32, 50, and 64 ounce packages that require refrigeration after opening. Food particle size can be chosen to match fish size from 0.5, 0.8, 1.2, 1.8, or 2.4 mm in average diameters. We recommend 0.8 mm for daily feeding of zebrafish adults.

**To order**: [www.snextracts.com](http://www.snextracts.com)

**Literature Cited**

Delomas TA and K Dabrowski. 2018. Improved protocol for rapid zebrafish growth without reducing reproductive performance. Aquaculture Research 50:457–463.

Lawrence C, J Best, A James, K Maloney. 2012. The effects of feeding frequency on growth and reproduction in zebrafish (*Danio rerio*). Aquaculture 368–369:103–108.

Monteiro JF, S. Martins, M Farias, T Costa, AC Certal. 2018. The Impact of Two Different Cold-Extruded Feeds and Feeding Regimens on Zebrafish Survival, Growth and Reproductive Performance. J. Dev. Biol. 6: 15; doi:10.3390/jdb6030015.

Watts SA, C Lawrence, M Powell, and LR D’Abramo. 2016. The Vital Relationship Between Nutrition and Health in Zebrafish. ZEBRAFISH, Vol 13, Supplement 1, DOI: 10.1089/zeb.2016.1299.

  