



# Reed Mariculture

ENSURING HATCHERY SUCCESS™

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## **ALGAE WEEK BROUGHT TO YOU BY REED MARICULTURE: Q&A with Reed Mariculture Founder and President Tim Reed**

**In the second of a series of articles we meet Tim Reed, founder and president of Reed Mariculture.**

**Q: How did Reed Mariculture begin its journey? Tell us a bit about how you got started and how you've evolved.**

**Tim Reed:** After college I was working on a factory trawler, and on a trip to Chile I was introduced to razor clams. That sparked a dream to start a land-based farm to grow high-value bivalves to sell into the San Francisco market. Of course this required production of large amounts of marine microalgae.

When Reed Mariculture Inc. (RMI) was founded in 1995, my goal was to produce the first commercially available, biosecure shellfish raised on land. We developed tank-raised shellfish technology for three years, and during this same time we developed and refined the technology for large-scale grow-out of marine microalgae -- the feed for shellfish.

**Q: How does sustainability play a role at Reed?**



**Tim Reed:** The supply of fish and shellfish, and more importantly larvae and seed from the wild, is becoming progressively harder to come by. So aquaculture is going to increasingly turn to land-based hatchery larviculture for traditional food species as well as new ones. Reed Mariculture has the clean, highly nutritious feeds that are needed to support this transition. We also see our aquarium feeds product line playing a role in supporting healthier reef

ecosystems. Collecting ornamental fish and invertebrates from the wild can result in massive damage to delicate reef life, but now that are increasingly raised sustainably in hatcheries and farms, reefs can be saved from destruction, opening up the possibility of restoration.

From a sustainability point of view, our closed, recirculating production systems are highly efficient. We are a zero discharge facility. Additionally, our closed, recirculating systems greatly reduce water loss from evaporation. Traditional open pond and batch culture systems lose considerable amounts of water through evaporation, and do not always provide an effective means for cleaning residual water and making it reusable. As aquaculture grows to meet the requirements of the coming decades, the ability to produce algae sustainably will be critically important.

**Q: What sets concentrated algae apart? What are the pros and cons?**

**Tim Reed:** Our Instant Algae concentrates provide all the advantages and benefits of live algae because the whole cell of the microalgae is preserved through our proprietary, biosecure process, encapsulating all the nutrient value— without the large investment of infrastructure, time, expertise and labor required to grow it yourself. We have invested in the infrastructure to produce these microalgae concentrates so customers can put their infrastructure and resources toward growing their animals. Customers just need a refrigerator or freezer (to store Instant Algae!).

Our concentrates give customers security against algae culture crashes that could wipe out a whole growth cycle or cause the loss of an entire hatch. The fact that Instant Algae is an available and dependable source is summed up in our tag line, “Algae When You Need It.” Our concentrates and custom blends of the most effective algae for larvae growth and survival can be used as a complete feed replacement or as a nutritional supplement. The algal cells are intact but non-viable -- so the only con, and only for those who believe live is better, is that they are not live.

**Q: How are algae concentrates produced?**

**Tim Reed:** Unlike traditional algae systems, we use a proprietary, closed, recirculating photobioreactor design that allows microalgae to be grown in controlled conditions, miles from any vectors of contamination. Our proprietary harvest and concentration processing then maintains intact cells that keep all their nutritional value, while at the same time rendering them non-viable.

**Q: Is there an “ideal” species for feeding with concentrated algae?**



**TR:** While results vary according to species when using 100% replacement of live algae with concentrates, we have found that all animals benefit to some degree using concentrates as an addition to live algae production.

Virtually all salt water food animals consume algae— at the early larval stage at a bare minimum. The ability to provide algae to them can make the difference between aquaculturing through ALL life stages, and farming – having to collect eggs or larvae from the wild in order to rear them in a contained environment. For this reason, algae can also be a key to success or failure. A hatchery can only rear as many animals as it can feed. Having enough of the *right* variety of algae, at the right time, is critical.

To this end, concentrates become a key factor in developing stable and predictable hatchery production for all marine food animals, which also allows us to leave the ocean’s larvae in the wild.

To date, we know that algal concentrates are a preferred solution for rotifer production (to feed larvae) and greenwater for many high-value finfish such as cobia, seriola, red drum, red snapper, sea bream, and barramundi. Concentrates are being used as a full replacement or augmentation for a variety of bivalves, and has been shown to increase survival and reduce disease in shrimp when used in conjunction with live algae.

Our understanding of the nutritional requirements for aquacultured species continues to grow; research continues to maximize the benefits for each animal. Algae concentrates facilitate this process by providing a consistent source of a variety of algae, that can be mixed and matched to find just the right blend of components for the animal at hand.

For example, our Shellfish Diet, and our RotiGrow Plus and All-in-One rotifer feeds optimize nutrition through the use of algal blends.

**Q: What impact has your product had on your customers?**

**Tim Reed:** Simply stated, our microalgal feeds ensure hatchery success because they provide a dependable, biosecure source of nutrition for rotifers and larvae of shellfish, finfish and shrimp, that has proven to increase the survival and growth rates for the larvae – thereby ensuring repeatable production results. With Reed Mariculture microalgal products, hatcheries don't have to spend their time and money growing algae, instead they can focus their efforts on rearing their larvae. We have created products that contain the most effective and beneficial combinations of algal species, and optimal levels of nutritional components, for superior hatchery performance.