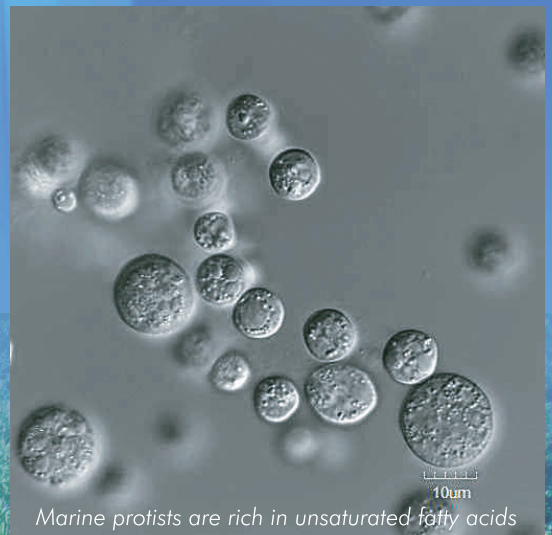


NUTRIENTS FROM MARINE PROTISTS FOR FISH FEED

Researchers: Kennedy A. Aguol, Julian Ransangan, Annita Yong Seok Kian, Suhaimi Md. Yasir and Saleem Mustafa

The heterotrophic marine fungoid protist thraustochytrid is a fascinating microorganism having the potential to produce lipids containing high levels of Docosahexaenoic Acid (DHA) and Docosapentaenoic Acid (DPA). In fact, highly unsaturated fatty acid (HUFA) derived from this organism is already commercially produced for various applications including aquaculture feed, poultry feed and food supplement for human consumption. These lesser known marine protists have gained popularity for their biotechnological importance particularly in the production of highly unsaturated fatty acids. It has also been reported that thraustochytrids could produce a range of lipids especially from omega-3 series. Omega-3 is crucial for maintaining good health both in humans and aquaculture organisms. Despite its potential, no study has been conducted on this microorganism in Sabah. In view of the importance of these microorganisms in aquaculture, researchers from the BMRI have initiated the isolation and characterization of the organisms from several mangrove forests on the west coast of Sabah.

Currently, intensive studies on the determination of omega-3 polyunsaturated fatty acid composition, and development of a novel fermentation protocol of this microorganism are under progress. The results of the preliminary studies showed that the protists can be grown in simple culture media and expected to produce high quality of polyunsaturated fatty acids which are required by larval stages of marine fish.



Marine protists are rich in unsaturated fatty acids

Mangrove leaves are natural habitats of marine protists