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Well Seawater Obtained from Underground Limestone Layer in OKINAWA Islands, Its Performance of Shellfish Giant Clam *Tridacna gigas* Cultivation, and Chemical, Microbiological Characteristics

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Summary

Well seawater from coral limestone layers was high lighted as a new characteristic oceanographic resource, that is free of bacteria, viruses and pico-plankton. A shellfish giant clam *Tridacna gigas* cultivation test using well seawater compared with ocean seawater continued 169 days from fall to spring. As a result, a growth rate of well seawater that is 1.1 %/day, about 2 times higher than ocean seawater, also a survival ratio is 96%, about 2 times higher than ocean seawater.

Chemical and microbiological analysis of seawater was provided in Mie University using frozen samples sending 4 times by airmail. Items of chemical analysis are % of salt, pH, DO, Fe, Mn, NH_4-N, NO_3-N, PO_4-P.

Results of chemical analysis were shown well seawater originated from ocean but separated un-aerobic condition, so level of DO is decreased.

Number of microorganism in well seawater is most characteristic, eg. number of bacteria, viruses and pico-planktons were almost zero in natural, cheking by fluorescent microscope using DNA staining dye.