



KOYOH Co., LTD.



Verifying effectiveness and achieving reliable results

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It has already been 10 years since we began research and development into the purification of tidal flat sludge by fermentation and humus of sewage sludge and thinning that had been incinerated. The practical operation finally commenced last summer. Because this involves nature there are still some points to be improved, but it has been possible to increase marine resource root species such as Japanese littleneck clams and hard clams etc. In the future, we want to work with a university team, government and fishery cooperatives to make improvements and to find the best installation methods for different conditions in various sites. (KOGA Masayuki, Director)



KOGA Masayuki, Director

“Ryugu no Tsukai”, a water purification product that converts sludge into seafood bait



Water purification product (Ryugu no Tsukai)



▲ Main component – Fulvic acid iron silica



▲ Effective for sludge purification and clam recovery



Before installation



1 month after installation

▲ Easy to construct to purify water environments on tidal flats or fish cages etc.

Effectiveness

“Ryugu no Tsukai” is a water purification product that can convert sludge into seafood bait.

The main component is Fe-Fulvic acid silica, which, when placed in water, breaks sludge down with the oxidizing power of ferrous iron. Also, the supply of silica at the same time promotes the growth of diatoms which are preferred by shellfish, small fish, and crustaceans. The presence of shellfish has a particularly synergistic effect on tidal flat purification and the maintenance of marine ecosystems.

“Ryugu no Tsukai” is capable of **converting about 10 cm of sludge per year into seafood bait.**

Applications

This can be used to break down sludge in closed waters such as bays and lakes where eutrophication is proceeding. In addition, by oxidizing ammonia and nitrite nitrogen into nitrate nitrogen in seafood farms, it is possible to reduce the seafood mortality rate.

Strengths

● **Supplying seafood while improving the environment**

A major feature is that it can break down sludge to supply food needed by living organisms, while suppressing the occurrence of nitrite, which is harmful to living organisms. Not only does this improve water environments, it also contributes to increased catches for fisheries and aquaculture.

● **Inexpensive and easy to purify**

This product can be used by just placing biodegradable bags containing the product on tidal flats or in fish cages. The conventional sludge treatment method of collecting sludge by ship and transporting it offshore is costly, but with “Ryugu no Tsukai” it is possible to process about 2,000 m² of sludge for about 500,000 yen.

● **Utilizing plants as raw materials**

The main component of fulvic acid is produced from plants such as trees, bamboo and grass etc. Also, by reusing sewage sludge we can effectively use minerals such as iron, silica and magnesium contained in the sludge.