

## Antifoulants and aquaculture

Researchers from Clean Seas Tuna Ltd (CST) and the South Australian Research and Development Institute (SARDI) are currently undertaking research at CST's Arno Bay and Fitzgerald Bay farm sites to evaluate a new antifoulant product.

Biofouling presents an ongoing operational problem to aquaculture farm operators.

On sea cages, fouling restricts water flow which reduces the supply of dissolved oxygen and the removal of excess feed and waste products.

Fouling organisms can also compete with farmed fish for food and space; weigh nets down; and provide a home for parasites. Parasites can affect the economic performance of fish cultured in fouled nets.

The current industry practice to prevent fouling on nets is to change cage nets every 10 days in the warmer months. Nets are then manually cleaned on land to remove fouling build up. This process is costly, tying up valuable labor resources and is disruptive to fish feeding habits.



Above: Fouling on a sea cage net (photo courtesy of Kirsten Rough, ASBTIA).

Another method of controlling biofouling is through the use of antifoulants on sea cage nets.

Antifoulants contain chemical compounds called biocides that

are used in everyday household products like antiodandruff shampoos.

How effective an antifoulant is, depends on the type of organisms fouling nets, light levels, tidal movement, temperature, and the time nets remain immersed. Products therefore need to be tested locally to determine if they will be effective.

A team of SARDI researchers from Aquatic Sciences and Food Safety, led by Dr Shane Roberts, are working with the industry as part of a Seafood CRC project, to manage fluke parasites on farmed yellowtail kingfish. A component of the project aims to: 1) assess the effectiveness of a new antifoulant at reducing fluke numbers, and 2) determine antifoulant residues (if any) in both the fish and environment.

Specifically, a new copper-based antifoulant product, manufactured in Japan is being evaluated.

The product has a lower copper content than products currently used in Tasmanian aquaculture.

David Padula (SARDI Food Safety) visited the Japanese antifoulant manufacturer and their laboratory to learn more about the product and is monitoring the farm environment and fish.

It is hoped that the outcomes from this project will determine whether a new antifoulant is effective at improving the health and welfare of farmed fish, with minimal or no effects of chemical residues. Subsequent reductions in labour costs associated with both biofouling and disease treatments would improve the economic performance of the yellowtail kingfish and southern bluefin tuna industry.

## Key Points

Fouling on fish cages is a significant cost to industry and can effect fish health.

A new, low level, copper-based antifoulant is being evaluated to determine its effectiveness in controlling flukes on yellowtail kingfish.

Researchers are also determining antifoulant residues (if any) in both the fish and the environment.

## Key Contacts

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