



CASE STUDY

XyRex[®] P3 Plus Application in RSW Systems

In recent fishing seasons, XyRex[®] P3 Plus has been applied with a high degree of success by the pelagic fleets of the Northern Atlantic. This case study outlines the optimum application and use of XyRex[®] P3 Plus to gain the highest value and best quality fish.

The FV *Adenia* (LK193) carried out trials on the best method of applying XyRex[®] P3 Plus to its refrigerated seawater (RSW) tanks. It was found that the simple addition of XyRex[®] P3 Plus to the RSW gave good results, with the reading of total volatile nitrogen (TVN) being in the high 30s to low 40s after five days fishing. However, by carefully controlling the application of XyRex[®] P3 Plus and ensuring the correct dosage, it was found that a TVN of only 17 could be achieved for 110 hour old blue whiting.

Once the blue whiting are brought on board they are chilled in seawater. The salinity of the seawater allows the temperature to drop below zero without freezing the fish. The seawater is then discharged and the tanks topped up again with chilled fresh water treated with the required amount of XyRex[®] P3 Plus. In all RSW applications, the amount of XyRex[®] required is calculated on the total volume of each tank. For example, a 250m³ tank would require 25 litres of XyRex[®] P3 Plus applied at the ratio 10000:1. The RSW tank is maintained at a constant temperature until discharge.

During the trial, the *Adenia* landed 1300 tonnes of fish at Egersund, Norway. The condition of the fish was found to be excellent, the TVN was only 17 and the temperature in the RSW tank was 0.9 °C. Upon discharge, the tanks were found to be spotless and required no further cleaning.

The study revealed that by first chilling the fish in seawater and then discharging the water, the high bacterial demand on XyRex[®] P3 Plus normally associated with the seawater and the surface of the fish was removed. The fish was effectively washed and chilled before the XyRex[®] P3 Plus addition. This meant the XyRex[®] could work more efficiently on controlling the degradation, the fish freshness and firmness. The TVN of newly caught fish is around 5 due to the nitrogen present in the fish itself. The cut off point for human consumption is a TVN of 50. A TVN of 17 for 110 hours old blue whiting is excellent will allow for a much higher quality product.