



## Chilean Abalone Aquaculture: An Update.

Despite recent difficult times in the Chilean aquaculture industry such as the production problems in salmon due to diseases and market problems for mussel and scallop producers, abalone farmers have reported good news over the past year.

The abalone industry was able to grow and diversify their markets and products in a global crisis scenario. Switching from almost entirely frozen product exports to Japan to the current approach consisting of 50% canned product, 49% frozen and 1% live (by weight) to a variety of countries, mainly in Asia.

In 2007, sales were US\$ 5.6 million dollars, decreasing in 2008 to US\$ 7.6 million dollars, and in 2009 jumped to US\$ 14 million. In volume, this equated to 238 t in 2007, 322 t in 2008 and 555 t total production in 2009.

But if one further explores this last figure, it comes out to around to 1 000 tons if we consider farm gate production volume, a goal that was expected about 4 years ago and was only accomplished this last year. The 1000 tons consists of 455 t of frozen product, plus 463 t fresh product that went to canning (92,6 t final canned product) and 8 t of live-fresh, and if we add at least 11% of animal weight that is lost after harvest.

Although there are currently 14 commercial farms in Chile, most of the production is based in 3 companies, two in the north with land based operation and one in the south in sea based operation. There are a few others that are doing well but have only recently started production.

In the past years the number of farms had been reduced, 5 small producers went out of business and they decided to focus only on their main product, the mussel. These companies faced problems with production and were not able to sell their product abroad due to the lack of export capacity. One big farm with Japanese investment decided to close their *H. discuss hannai* operation in the north of Chile as they could not solve the production problem of slow growth and high mortalities in their abalone.

Red abalone *Haliotis rufescens* represents more than 95% of the production, the other introduced species *Haliotis discus hannai* still facing production problems, with low growth rate and abnormal mortalities in husbandry. Only one company is currently producing this species, and last year production was 11 t frozen shell on product, and less than 1 ton of canned and fresh product.

Production in Chile is both inland and in sea-based systems. Major improvements in one land operation has been the use of a seawater recirculation system with very good

results, a critical factor considering the heavy increase in electrical rates in recent years in the country. In the sea based system the barge and cage operation system had been improved resulting in improved efficiency.

The industry is based almost entirely on brown seaweed as feed, and represents the biggest challenge for the future of the industry. There is already an official closed season in the north of the country, and companies need to conduct management programs with fisherman to access the resource. There are numerous pilot scale projects to culture *Macrocystis pyrifera* as food for abalone. It is considered feasible to produce this algae but limitations on leases in the sea has affected the development of operations. Furthermore, technology has to be improved to reduce the cost of operation, allowing this algae product to compete with the price of the algae product harvest from the wild. The industry is still assessing the use of artificial diet.

Substantial growth of the industry is not expected in the industry. Current companies need to consolidate both production and their market position. This is being observed by many other big aquaculture companies in Chile (salmon, mussels, algae) that are waiting to see clearer results from the abalone farming business before considering joining this activity.

Roberto Flores Aguilar

Email: [rflores@ulagos.cl](mailto:rflores@ulagos.cl)

Chile representative and past president of the IAS.