



Shaping ideas into Plastic

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## LOW VOLUME, HIGH DENSITY (LVHD) FISHCAGES

LVHD promises to be the wave of the future for the mariculture industry. Instead of the traditional high volume of about 200 m<sup>3</sup>, LVHD uses volumes up to 30 m<sup>3</sup>, resulting to reported yields of at least 100 kg fish per m<sup>3</sup>. The investor enjoys the benefits of (1) lower investment cost compared to traditional cages, (2) easier transport, set-up, maintenance and harvesting, (3) adaptability for growing high-value fish, and therefore, (4) attractive rates of return and payback periods of less than those of traditional high volume low density fish cages.

LVHD was introduced in China in 1991 with remarkable success. This photo shows culture of carp and tilapia in small cages. Note the straight line configuration, perpendicular to the direction of the water current, instead of the "checkerboard" in traditional systems. This enables each LVHD cage to have frequent and unrestricted changes of water.



### HOW LVHD INCREASES PRODUCTIVITY

The primary factors would be the same in LVHD as in traditional system: water quality, feed quality and quantity and stock quality. However, under otherwise equal conditions, complete water exchanges are more frequent within an LVHD cage due to its compact volume, leading to better water quality, such as dissolved oxygen, which in turn leads to better productivity and yields.

*water surface*

#### **LVHD**

2.3mx2.9mx  
4m deep

#### **Traditional 10mx10mx4m cage**

By the middle of the cage, the water quality would be significantly poorer, affecting overall yields.

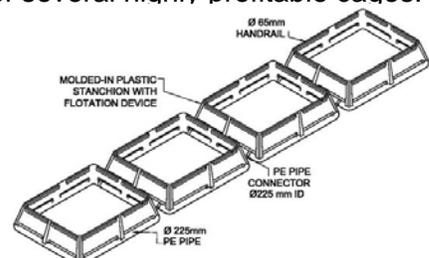
*water current*

Along these principles, INCA has developed a 2.32m x 2.9m x 0.775m height fishcage. The rectangular floating structure is a rotomolded one (1) seamless piece made of rust-free, virgin, food-grade, UV-stabilized virgin polyethylene resin that will withstand tropical weathering.



**Low Volume High Density Fish cage (LVHD)**

A row of 2.32m x 2.9m x 0.775m Height cages can be interconnected with the INCA PE pipe connector (see below), building a farm of several highly profitable cages.



**INCA PE pipe connector**