

Effect of Density and Mesh size on Growth and Survival of Scallop, *Chlamys farreri* cultured in suspension Cages in the West Coast of Korea

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We studied that the effect of density on growth and survive of the scallop, *Chlamys farreri* (initial shell height 3.3 cm and shell total weight 5.6g) from June 2002 to October 2003 in the west coast of Korea. *C. farreri* is a species native in the coasts of northern China and western Korea. Range of surface water temperature in the study area was 4.3 to 25.3°C, salinity 29.2 to 32.1‰, dissolved oxygen 5.32 to 7.51mL/L and pH was 7.84 to 8.12, respectively. The densities were 20, 30, 40 and 50 individuals per a compartment of suspension cage in culture beginning. After 16 months from initiation, ranges of shell height and mean total weight were from 6.4 cm to 7.6 cm and from 41.5g to 64.9g. The survival rate was from 82% to 100%. The growth rate of the scallop was negatively correlated with the stocking density. The growth of the shell height and total weight were decreased followed to fall of water temperature. Most of mortality of scallop occurred during April to May and September to October. Survival rate in the density was decreased by density increase and was highest in 20 individual a compartment.

Also, we studied the effects of material and mesh size of cages on the growth of *C. farreri* (initial shell height 3.9 cm and shell total weight 7.2g) held in suspension cage from September 2005 to October 2006. The experiment was performed with two materials (net and plastic) and two mesh sizes (1 cm and 2 cm) of cages in same densities. After 13 months from culture beginning, ranges of shell height and total weight were from 6.4 cm to 7.0 cm and from 39.1g to 47.0g, respectively. The survival rate was from 93% to 100%, respectively. The growth rates of the scallop were positively correlated with the mesh size. In the growth rate according to culture material, the growth of scallop in the plastic cage was faster than in the net cage from September 2005 to June 2006, but the growth in the plastic was slower than that in the net cage for obstruction by attaching organisms from June to October.