

## **Characterization of Finfish Hatchery Waste for Value Added Product**

### **ABSTRACT**

Commercial fish hatchery generates waste both organic and inorganic; the sources are primarily from uneaten food and fish feces. Conventional methods of treating hatchery wastes will increase the operating cost and become extra burden in production. It is necessary to develop a new research application of this nonconventional resource and reduce the negative impacts of hatchery waste on the environment. The whole project is to utilize hatchery waste through bioprocess for probiotic fortified live feed production. In this study, the chemical composition of hatchery waste was determined to understand the suitability waste to get value-added derived products through bioprocess. Composite samples were collected everyday and dried in an oven at a temperature of 65°C until complete dryness. Dried samples were mixed well and grinded into fine powder. The analytical parameters like total solids, ammonium nitrogen, nitrite, nitrate and phosphate were determined from the freshly collected samples. Total nitrogen, total phosphorus and total potassium were determined from the dry samples. Total solids, ammonium nitrogen, nitrite, nitrate and phosphate-phosphorus were observed in the ranged from 75 - 82 mg/L, 0.25 - 8.5 mg/L, 0.05 - 1.9 mg/L, 0.04 - 6.7 mg/L and 4.1 - 16.7 mg/L respectively. On the other hand, the mean content of 3.75% total nitrogen, 1.80% total phosphorus and 0.15% potassium were determined in dry hatchery wastes. The analytical parameters are useful and demonstrate that the nutrients in both fresh and dry waste will be supportive for the growth of microbes in the bioprocess system.