

## APPLICATION OF GENETIC IMPROVEMENT TECHNIQUES IN AQUACULTURE INDUSTRY

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### **ABSTRACT**

*The purpose of this review is to emphasize the implemented success of genetic improvement techniques in aquaculture industry. The review illustrates the application of genetic improvement technology, that involves classical and modern genetic technology, in diverse aquatic species. Such as, the application of selection breeding technology, integration breeding technology (intra-specific crossbreeding and inter-specific cross breeding), chromosome set manipulation (artificial androgenesis, artificial gynogenesis, and polyploid breeding), and modification breeding technology (represented by transgenic breeding). Some cultured species received concentrated breeding effort, whereas other major cultured species received limited attention, and a few species have not been genetically improved. Genetic improvement of aquaculture species offers a substantial opportunity for increasing production efficiency, health, product quality, profitability in aquaculture enterprises. Therefore, Genetic improvement technology has a major role to ensure the continued expansion and intensification of aquaculture to meet the growing demand.*

**KEYWORDS:** *Genetic Improvement, Technology, Selective Breeding, Chromosome Set Manipulation, Crossbreeding, Modification Breeding*