

The Role of Selective Breeding in the Sustainable Farming of Marine Shrimp

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ABSTRACT:

The ultimate goal of any genetic improvement program is to improve production efficiency (e.g. faster growth, higher survival, etc.) of the target species. This is done by making the target species better adapted to the farming environment and by improving commercially important traits. For shrimp, particularly *Penaeus (Litopenaeus) vannamei*, selective breeding has made significant improvements in reproductive performance, growth, and disease resistance/tolerance (at least for a small number of diseases). There are many different approaches available to breeders when designing and operating a shrimp genetic improvement program. Which approach or combination of approaches is best will be dependent on a number of genetic and non-genetic factors (including economic factors). Moving forward, continued genetic improvement, along with more efficient and environmentally friendly farming practices, will be needed to meet the growing global demand for shrimp.

KEYWORDS:

Shrimp, genetics, selective breeding, genetic improvement.