

POTENTIAL BENEFITS OF GENETICALLY IMPROVED FARMED TILAPIA (GIFT) IN AQUACULTURE : A REVIEW

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ABSTRACT

Genetically Improved Farmed Tilapia (GIFT) under review is the product of the world's first selective breeding programme for tropical fish. The project began in 1988 by comparing the performance of existing Asian niloticus farmed strains and imported wild strains (Ghana, Egypt, Kenya, and Senegal). Tilapia strains from different sources are combined in 8 x 8 diallel model and produce 64 crosses. All 64 possible pure- and crossbreeds among and within the four African and four Asian strains were measured in different test environments. Best combinations are then used to establish the base population. The GIFT project eventually yielded genetic improvements of 7.1 % genetic change over nine generations of fish or a 64% cumulative increase in tilapia growth over the base population. The advantages of this strain are that they grow quickly, survive well, ease of farming, low production cost, high survival, can tolerate lower oxygen quantity and lower water quality.

Key words: *GIFT, Super Tilapia, Diallel model, Cross breeds, Farming.*

INTRODUCTION

Genetically Improved Farmed Tilapia (GIFT) has an important role to play in increasing aquaculture production in developing countries. It is the most important product of the world's first traditional selective breeding procedure for tropical fish as it grows more rapidly than indigenous tilapia strains. Besides that, it is an affordable source of proteins, vitamins, minerals and essential fatty acids that are necessary for maintaining good human health. It also paves the way of additional income and employment generation for both fish farmers and hatchery operators. But, GIFT