

## Growth and Efficiency of Sex Reversal of Nile Tilapia Fed Hormone Treated Feed Stored Under Different Storage Regimes

Interim Work Plan, Africa Study 7

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### Introduction

Tilapia are cultivated in Africa, southern Asia and Central and South America. The “red” tilapia (*Oreochromis spp.*) has greater acceptance among some consumers, but “normal” colored fish showed superior growth compared to red colored fish. This research compares Nile tilapia and “red” tilapia as relates to the reproductive efficiency of adults and growth, survival, and response to sex reversal of fry.

Sex reversal involves feeding a feed that has been treated with a male hormone to fry before the primal gonadal cells of females have differentiated into ovarian tissue. The hormone-treated feed used for sex reversal is generally stored under refrigeration. Incorporated in this research is an analysis of the shelf life at ambient tropical temperatures of the hormone-treated feed used for sex reversal. The following is a preliminary report summarizing methods and results without statistical analysis. All research was conducted at “El Carao” Aquaculture Station in Comayagua, Honduras.

### Materials and Methods

Experimental design and procedure were conducted in the same manner as the above study except for the following. Feeds for this experiment were taken out of the freezer at their designated times and placed in a refrigerator at 4°C or “on the shelf” at tropical ambient temperature (28°C +/- 1.5°C). Feed storage times were: a) zero months in the refrigerator - 26 days on the shelf, b) zero months in the refrigerator - seven days on the shelf, c) zero months in the refrigerator - zero days on the shelf, d) two months in the refrigerator - 26 days on the shelf, e) two months in the refrigerator - seven days on the shelf, and f) two months in the refrigerator - zero days on the shelf. Fry were fed daily for 14, 21, or 28 days. These studies began on February 7 and finished on August 31.

### Preliminary Results

Preliminary results are summarized in Table 1.

Table 1. Summary of the growth and efficiency of sex reversal of Nile tilapia fed hormone-treated feed stored under different storage regimes.

Treatment Refrig.- Shelf	Avg. Length (mm)	Total Wt. (g)	Avg. Wt. (g)	Total Number	Avg. % Survival	FCR
0mo-0day	36.1	964.4	0.87	1106	55.3	.94
0mo-7day	36.0	1038.8	0.90	1154	57.7	.88
0mo-28day	36.0	1081.5	0.87	1250	62.5	.85
2mo-0day	35.0	970.4	0.79	1223	61.1	.95
2mo-7day	36.4	990.4	0.87	1141	57.0	.94
2mo-28day	36.1	975.4	0.90	1083	54.2	.96
Control	37.0	1182.6	0.99	1189	59.5	.79