Sex control in Fish : Production of all Male Fish Using Hormone Treatment

APATSA P. CHELEWANI

13.03.19

Basis for sex reversal in fish

- **Genetic Vs. Phenotypic sex in fish**

Introduction

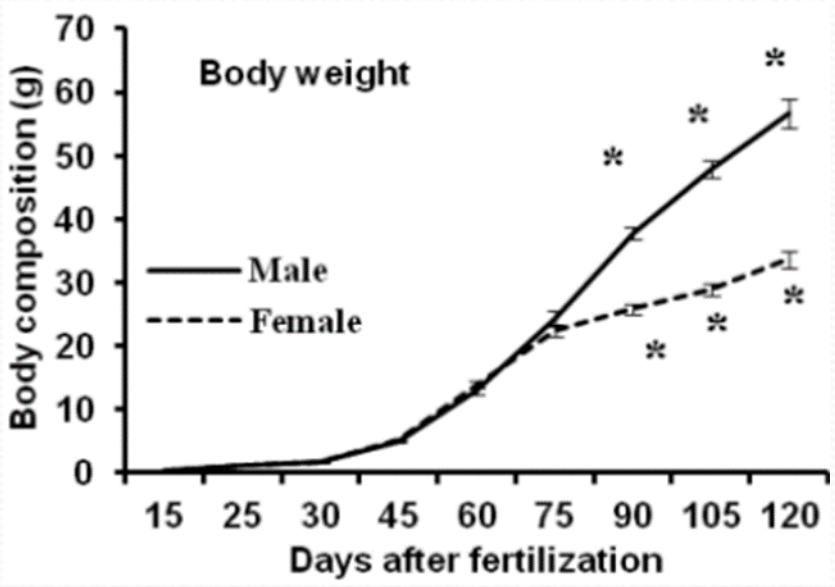
- Sex control is one of the most important and highly targeted areas of aquaculture
- Applicability in economics (productivity) and production of exotics
- Why on earth would you want one sex?
  - Sexual Dimorphism
  - Color and shape
  - Eggs or roe- Caviar production at **Fischzucht Reese!**

In tilapia…

- Why do Males grow faster?
  - Natural Sexual Dimorphism
  - Little energy demand for reproduction; focus on somatic growth
  - No precocious spawning

The Math is simple:

All males = High Harvest weight = Greater productivity = Greater Profit!



Growth differences between male and female tilapia (Source: Bhatta, 2013)

Production of all male tilapia

Hormone Treatment

- Exposure of sexually undifferentiated fish to an appropriate dosage of exogenous sex steroids, commonly 11-α-methyltestosterone, is the most common approach

Hormone Treatment

Principles:

1. Timing
- Target the labile period

Hormone Treatment

Principles:

2. Dosage

- Depending on species of interest
- Potency also crucial

Take Home message

- Potential for improved returns through all-male growout
- Hormone treatment the most common
- Be mindful of timing and dosage of hormone

Thank You…