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Title: Sex Reversal of Tilapia

Author(s): Ronald P. Phelps Thomas J. Popma
Department of Fisheries and Allied Aquacultures
Auburn University
Auburn, Alabama 36849

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Abstract:

Early maturation and frequent spawning are management challenges when working with tilapia. Male tilapia are preferred for culture because of their faster growth. Of the various techniques that have been developed to provide male til apia for culture, sex reversal is the most commonly used procedure. Recently hatched tilapia fry do not have developed gonads. It is possible to intervene at this early point in the life history and direct gonadal development to produce monosex populations. Exogenous steroids given during the gonadal development period can control the phenotype overriding the expression of the genotypically determined sex. This process is commonly referred to as sex reversal. Androgens direct the development to males and estrogens to females. Methyltestosterone is the most commonly used androgen to direct the sex of tilapia. Various protocols regarding dose rate and treatment duration have been evaluated. All depend on hormonal treatment with sexually undifferentiated fry. Fry may be obtained by partial or complete harvests of spawning containers. Containers used for tilapia spawning include indoor and outdoor tanks, earthen ponds and fine mesh net enclosures (hapas). When fish are treated from the beginning to end of the gonadal differentiation period with a proper dose of androgen the resultant fish population will be highly skewed to males.

This abstract is excerpted from the original paper, which as in: B.A. Costa-Pierce and J.E. Rakocy (Editors), *Tilapia Aquaculture in the Americas*, Volume 2. The World Aquaculture Society, Baton Rouge, Louisiana, pp. 34–59. (2000)

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