



# Erythrocytes alterations of monosex tilapia (*Oreochromis niloticus*, Linnaeus, 1758) produced using methyltestosterone

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## Abstract:

The present study aims to investigate the effects of methyltestosterone on monosex farmed tilapia, *Oreochromis niloticus* by detection of apoptosis, micronucleus and alterations of erythrocytes. Fishes were obtained from four localities (Assiut as a control and Beheira, Alexandria and Kafr EL-Sheikh; three farms from each governorate as farmed monosex produced using methyltestosterone). Blood smears were processed for Hematoxylin and eosin technique. The major alterations recorded in the red blood cells were as swelled cells (Sc), tear drop-like cells (Tr), and sickle cells (Sk). Also, a significant difference ( $P < 0.001$ ) between three governorates and Assiut was recorded in the micronucleus test, apoptosis and altered erythrocytes. These alterations are considered as an indication for performance and health of fish in the monosex culture medium indicating the side effects of overdose induction of MT.

## Keywords:

Tilapia; Apoptosis; Micronucleus; Methyltestosterone; Aquaculture

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