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Impact of Water Temperature Fluctuation on The Health Status and Reproduction In *Oreochromis niloticus*

Thesis presented By

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English Abstract

This research was designed to monitor effect of increased water temperature on O. niloticus fish experimentally and survey.

Two hundred O. niloticus both sexes delivered from private farm, divided into four groups: one kept at room temperature (Control) and the 3 others kept at 30 ºC, 33 ºC and 36 ºC water temperatures respectively for 2 weeks. Survey collected from El-monib at 27 ºC and 33 ºC water temperatures.

Experiment revealed nervous manifestations, suffocation, detached scales, ulcers and tail rot.

Postmortem lesions included unsymmetrical gonads, ovaries friable with autolysis and majority of testis appeared thread - like.

Females showed highly significant decrease in B.W., WG, WH, IG, K condition as well as relative and absolute fecundity at the three experimented groups compared to control.

Males registered highly significant decrease in B.W., WG, WH, IG (at 36 ºC only) in addition to relative fecundity F.B.W. and F.O.W. (At 33 ºC only) and Sperm density at the three experimented groups compared to control.

Concerning survey females B.L., B.W., F.B.L., F.B.W., WG and IG showed high to moderate significant increase. Oppositely, F.O.W., K condition and absolute fecundity copied highly moderate to high

significant decrease.
Whereas, survey males B.L., B.W., W.H., W.G., I.G. and relative fecundity showed highly significant increase. Sperm density highly significant decreased.
Total protein, globulin and E2 highly significant decreased in experimented male (except 36 ºC), females at 36 ºC and survey groups of both sexes.
Glucose and testosterone increased highly significant among both sexes experimented and survey groups. Albumin at 33 & 36 ºC females groups decreased highly significant while at 30 ºC females registered highly significant increase.
Ovaries showed necrosis, fragmented nucleus or cystic atretic follicles. Others collapsed and became irregular in shape.
Testis showed malformation with degenerated changes of interstitial cells and semineferous tubules lucent free of sperms.
Liver showed swollen hepatic cells with clean cytoplasm or rupture of hepatic cell wall showing (apthae formation).

Key words	Temperature, Absolute fecundity, Relative fecundity, Total protein.

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