

# DE LA SALLE UNIVERSITY

TOXICITY, BIOACCUMULATION AND HISTOPATHOLOGICAL  
STUDIES OF TILAPIA NILOTICA FOLLOWING  
SUBLETHAL EXPOSURE TO CARBARYL

190000

A DOCTORAL DISSERTATION  
PRESENTED TO  
THE FACULTY OF THE GRADUATE SCHOOL  
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## ABSTRACT

The 96-hour LC<sub>50</sub> of carbaryl to three month-old Tilapia nilotica was determined at 8.29 mg/l. The sublethal concentration of 6.22 mg/l (75% of 96-hour LC<sub>50</sub> carbaryl) was used for the bioaccumulation and histopathological studies.

Mean carbaryl residues, (mg/l) were found highest in the treated pre-starved liver (12.79), followed by kidney (8.70) and lowest in the brain (0.59). Residue of the insecticide was found highest in the treated fed muscle (4.88 mg/l).

Swollen and vacuolated hepatocytes and dilated sinusoids were noted in carbaryl-treated liver. Some arterial walls in treated pre-starved liver showed shrinkage. Epithelial cells of the portal vein and bile duct remained intact. Glomerular degeneration and distention of the capsular space were observed in carbaryl-exposed tilapia. No histological changes in the brain of both treated fed and treated pre-starved T. nilotica were found following carbaryl intoxication.

