**ORL-C&E-04**

**The Effects of Different Salinities on Some Physiological Characteristics of Freshwater Drum *Aplodinotus grunniens***

Justice Frimpong Amankwah*, Haibo Wen, Liping Liu, Kang Li, Jingwei Liu, Amuneke Kennedy Emeka, and Hongxia Li

Shanghai Ocean University
999 Hucheng Huang Road
Shanghai 201306, China
jfamankwah9393@yahoo.com

This study aimed to expand the culture area of *Aplodinotus grunniens* (*A. grunniens*) for improved production outside of its natural habitat by examining the species' reaction to water salinities. The study investigated the growth and physiological responses in *A. grunniens* using chronic and acute salinity testing. In a 36-day chronic salinity trial with 120 juveniles exposed to salinities of 0 ‰ (control), 4 ‰, 8 ‰, and 12 ‰, optimal growth and survival were observed at 8 ‰ salinity (P< 0.05). In a separate 4-day acute salinity trial with salinities of 0 ‰ (control), 7.5 ‰, and 15 ‰, the findings revealed that *A. grunniens* exhibited tolerance to salinity up to 15 ‰.

According to the study, *A. grunniens* thrives in salinities ranging from 7.5 to 15 ‰, showcasing optimal growth and physiological resilience without physical harm. This adaptation offers important information for aquaculture since it indicates the species' capability for brackish water environments. The preliminary results also imply that *A. grunniens* thrives better in specific salinity ranges under oxidative stress than in freshwater settings.

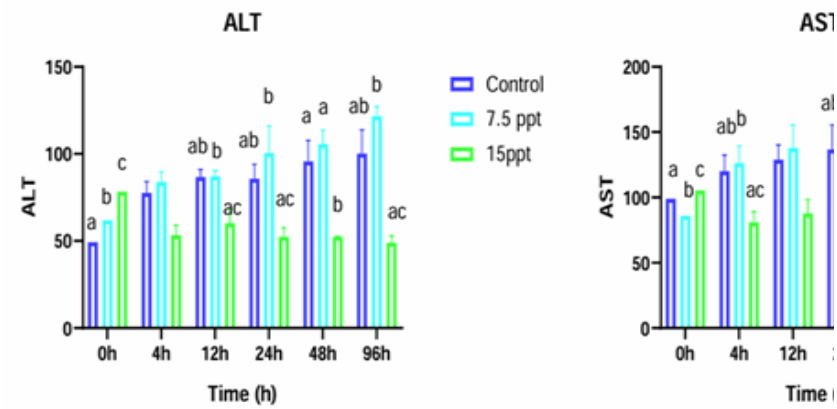


Figure 1: Illustrates the activities of Alanine transaminase (ALT) and Aspartate transaminase (AST) under varying salinity conditions across standard errors (SE), with matching letters denoting no significant difference (P> 0.05).

Figure 2: Shows the image of the Freshwater drum