

## **Valorization of Bokashi leachate as feed additive in tilapia farming**

### **ABSTRACT**

The Bokashi leachate (BL) is a by-product from the anaerobic digestion of food waste, following the Bokashi composting method. Bokashi leachate is acidic and it contains effective microorganisms hence it has potential to be a functional feed additive to the plant proteins based diets for fish farming. This study evaluated the growth performance and feed utilization of the red tilapia (*Oreochromis sp.*) fingerlings fed with the BL supplemented soybean meal (SBM) based diets. After an 8-week feeding trial, fish fed with the 5% BL supplemented SBM diet attained the highest weight gain. This result was significantly higher ( $p < 0.05$ ) than those fed with the 0% BL supplemented SBM diet, and comparable ( $p > 0.05$ ) to those fed with the control full fish meal (FM) diet. Generally, dietary inclusion of BL enhanced the fish feed intake on the SBM diet but it did not show clear sign of improvement in their feed utilization. In addition, no significant difference was found across the hepatosomatic index and viscerosomatic index from all dietary treatments. These outcomes concluded that dietary inclusion of BL can enhance the feed intake and growth performance of the red tilapia fingerlings fed with the SBM based diet without compromising their health, and the optimum BL inclusion level was 5%. Nevertheless, further study on the properties and substances content of the BL produced from different types and ratios of food waste is strongly recommended. In this study, BL was also discovered to be capable of reducing the crude fiber content in the SBM diets. Such observation deserves a further exploitation on the application of BL to manipulate the crude fiber content in the plant proteins based diets in fish farming.