ABSTRACT

Cilacap Regency is one of the coastal areas in Central Java that has the potential to produce fishery resources. In 2022, the total fishery production landed by type of fish was 19,955 tons or an increase of 11.23 from the previous year. Increasing intensive fish production plays an important role in improving the economy. However, this condition also has implications for the increase in the amount of fish waste produced. This means that around 5,986 tons of fish waste in Cilacap have not been optimally utilized. Of course, this is a fairly serious problem, and alternative solutions are needed to minimize the negative impacts caused. The solution offered in this study is the manufacture of solid organic fertilizer products from fish waste in order to optimize the nutrients contained therein through the Taguchi experimental process. This study was conducted with the aim of identifying the characteristics of N, P, K levels and obtaining the optimal composition of organic fertilizer based on laboratory test results. From Taguchi's experiment, the optimal N content and minimal noise combination was obtained, namely fish waste 1.50 kg, bran 0.75 kg, EM-4 300 ml, bromelain 40% of EM-4. The optimal P content and minimal noise combination was fish waste 1.25 kg, bran 0.50 kg, EM-4 200 ml, bromelain 60% of EM-4. The optimal K content and minimal noise combination was fish waste 1.75 kg, bran 0.75 kg, EM-4 250 ml, bromelain 20% of EM-4.

Keywords: *Solid organic fertilizer, fish waste, NPK, Taguchi experiment.*