## Abstract

In activated sludge wastewater treatment systems, large amounts of secondary waste sludge are generated, causing negative environmental impacts. However, this waste is a source of nutrients for the production of fertilizer that can be reused. The following research aims to know the efficiency in the removal of pathogenic microbial load of the waste sludge treatment in obtaining fertilizer through lactic fermentation process, using as indicators of fecal load: Fecal coliforms, Escherichia coli, Salmonella and viable eggs of helminths, recognized in the current Peruvian and international norm with the purpose of its reuse. In this way, 16 treatments were applied with the waste sludge, using the sugarcane molasses in proportions of 0, 6, 12 and 18% (w/w) and as inoculum the microbial lactic acid Biolac (B-Lac) in the proportion of 0, 3, 6 and 9% (w/w) respectively, under a complete randomized design (CRD) with 4 x 4 factorial arrangement. The Tukey's Multiple Range Test, at a level of significance of 0.05, and the Least Squares Test were used to analyze the effect of the interaction of sugarcane molasses and Biolac (B-Lac). The treatments were evaluated for a period of 30 days and the results by treatment 3% Biolac (B-Lac) with 18% Molasses as the best treatment that met the requirements of lower pH 3.54 and higher acidity in the shortest time (5 days) of 2.19% in lactic acid. In addition, on the fifth day of fermentation treatment a final product was obtained with fecal coliforms