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SCREENING OF PROTEASE-PRODUCING MICROORGANISMS FROM ANAEROBIC BIODIGESTION SYSTEM OF DAIRY CATTLE MA

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Abstract

Proteolytic microbial enzymes are biocatalysts with applications in many industrial sectors. Anaerobic digestion is a bioprocess considered a source of protease-producing microorganism to improve the nutritional quality of foods and the degradation and extraction of proteins for manufacturing products. This research aimed to screen of protease-producing microorganism from the samples were collected from the free-stall floor washing water before the solids separator and the biodigester effluent for four weeks in the routine operation. The biodigester was controlled using a Tecnal pH meter model, Tec-3MP. The temperature was measured at the conventional metrological station of the National Meteorologic Institute installed in Coronel Pacheco, MC using a Tecnal pH meter model, Tec-3MP. The temperature was measured at the conventional metrological station of the National Meteorologic Institute installed in Coronel Pacheco, MC solution and by surface scattering (0.1 mL) with the Drigalsky loop help. Samples were grown in duplicate on Skim Milk agar and incubated at 36 °C for 72 hours in aerobic and anaerobic microorganisms were cultivated on Brain Heart Infusion agar and later transferred to 500 µL of Brain Heart Infusion broth. After 24 hours of growth, 500 µL of 40 % glycerol was added to the 1 °C (± 1.5) temperature. The isolation of these microorganisms occurs from 3 to 11 pH range and temperature below 20 °C, which is reinforced by the literature data. The number of isolate proved to be capable of isolating protease-producing microorganisms in an anaerobic biodigestion system of dairy cattle manure.



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- Food biochemistry and biotechnology (BB)

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