

عنوان مقاله:

Processing of fish offal waste through fermentation utilizing whey as inoculum

محل انتشار:

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خلاصه مقاله:

Background Lactic acid fermentation is a strong tool to convert biodegradable wastes into food ingredients for animal husbandry. Experiments were made to evaluate if lactic acid bacteria of whey, a by-product of dairy industry, could be exploited to ferment fish offal waste (FOW) and to compare the effectiveness of whey as fermentation inoculum with that of a pure culture of *Lactobacillus acidophilus*. Results Although fermentation of FOW by whey required 5 days to complete in contrast to 3 days required for fermentation by *L. acidophilus*, removal of hazardous microorganisms like *Staphylococcus*, *Clostridium* and coliform bacteria was better in the whey-fermented fish offal (WFFO) than that of *L. acidophilus*-fermented fish offal (LAFFO). Protein and lipid contents of the wastes were almost completely recovered in both the fermented products, with WFFO showing a higher amount of free amino acid than the LAFFO. Both the fermented products were stable against the growth of mould and yeast. Conclusion It is concluded that whey is a viable and easily available inoculum to ferment FOW and convert it to a microbiologically safe and nutrient-rich end product suitable for use as feed supplement in animal feed formulation.

کلمات کلیدی:

Fermentation Lactic acid bacteria Nutrient recovery Organic acids Preservation

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