厭氧生物與薄膜組合程序處理食品廢水之性能研究

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摘 要

中文摘要 本研究針對現有食品加工廢水處理場，在土地限制的條件下，探討提昇處理容量的可行性。採用的方案是一方面改良現有上流式厭氧污泥床處理槽(UASB)三相分離器的構造，使能截留較多的厭氧污泥；另一方面則採用薄膜程序，去除UASB出流水的懸浮固體及膠體。即以厭氧生物與薄膜組合程序處理食品加工廢水。 本研究除進行現有UASB與改良型UASB實廠測試外，並以無三相分離器的厭氧污泥床Bench-scale加以驗證。薄膜程序則採用中空纖維膜及不織布膜進行測試。為防止薄膜結垢(碳酸鈣)，UASB出流水先經預曝氣後再進入薄膜程序。 本研究歷經兩個月試驗後，得知改良型UASB可提昇食品加工廢水至二倍的處理容量；薄膜程序的中空纖維膜及不織布膜二種薄膜性能，短期而言，其溶解性COD去除率大致相同，長期而言，不織布膜則較早劣化。

關鍵詞 : 食品廢水，厭氧生物處理，薄膜程序

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