

Production of bacterial cellulose in fed batch cultivation using waste from beer fermentation broth

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Bacterial cellulose (BC) is currently an interesting biomaterial produced by microbial cells. The use of cost effective medium for BC production is one of key factors in large scale industrial fermentation. The waste from beer fermentation broth (WBFB) was evaluated as a basal medium which is a feasible, inexpensive and worthy for the BC production. In the present study, BC membranes were produced by *G. hansenii* PJK in jar fermenters using WBFB in fed-batch cultivation. The wet weight of BC produced was slightly higher (i.e. 375g/L) as compared to the wet weight of BC produced in fed batch cultivation using chemically defined medium (used as a control system in this study) which was 338g/L. The thickness of the wet BC membrane was 2.5 cm, greater than control system which was 2.3 cm. The BC produced using WBFB showed a higher water holding capacity as compared to the control system BC.