Bacterial cellulose from agro-industrial waste material

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The expensive production of bacterial cellulose (BC) is presently a big hurdle in its commercialization. To search out new cheap alternative sources for BC production is therefore receiving a high demand. Presently we investigated the production of BC in shaking and static culture from three different alternative media; black strap molasses (BSM), molasses from condensation unit of Murree Brewery (MBM) and the dirty scum of Ghani (GS) along with a chemically defined Hestrin-Shramm (HS) medium as a control. All the media produced more cellulose at shaking conditions than static ones. Among all the media, BSM produced the most BC followed by HS, MBM and GS, respectively in both static and shaking cultures. The BC production was well supported by the total and live cells density results. Conclusive results showed that these cheap raw sources could be significant in BC productions on industrial scale. Moreover the utilization of these wastes for the production of BC or related bio-products will certainly reduce the hazards of environmental pollution associated with these wastes.