

Role of agar plates in the increase rate of BC production

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Agar is a polymeric substance which consists of galactose units. It is generally used in the form of solid plates for the growth of various bacteria. Besides its role as a growth medium, many researchers have proved that it has an obvious effect on the increase in production and productivity of BC. Chemically defined medium with pH 5 containing 1.0 %, w/v, of glucose, 1.0 % w/v, of yeast extract, 0.7 %, w/v, of peptone, 0.02 %, w/v, of succinate, and few mL of acetic acid, was putted onto the prepared agar plates. Similarly, a control was also prepared by the same method but without use of agar plate. 5 % of *Gluconacetobacter hansenii* PJK was inoculated after addition of 1 percent of ethanol into the medium contained in each flask. The experiments for BC production were performed in day wise as well as in batch wise manners. The day wise experimental results confirmed that the maximum BC production in the surface modified reactors (containing 2 % agar) was achieved after two days of cultivation compared to three days in case of control. Similarly, in case of batch wise experiments the production rates of BC was higher compared to the control one.