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Extracellular cellulase production by local isolates of
Aureobasidium pullulans through solid state fermentation

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ABSTRACT ELEMENTS

Three local isolates of *Aureobasidium pullulans* were screened for their ability to produce extracellular cellulase through solid state fermentation of rice bran and oat bran. Both substrates were supplemented with minimal salt media for the supply of essential elements. The cellulolytic activities were measured using carboxymethylcellulose and filter paper as substrates. All the three isolates exhibited both filter paper and carboxymethylcellulose activities. Carboxymethylcellulase activities ranged from 4.77 to 12.16 μg glucose per μg protein within an hour of incubation while filter paper activity ranged from 1.15 to 2.83 μg glucose per μg protein within 24 hours of incubation. Investigations on the temperature and pH stability of the crude enzymes were also carried out and these showed that the cellulases were stable over a fairly broad temperature range (25°C to 60°C) and pH range (4.0 to 8.0) retaining over 50% of their activity after 120 minutes of incubation. Thus some local isolates are a potential source of industrially applicable cellulases which can be produced from low cost solid state fermentation systems using agro based lignocellulose sources such as rice bran and oat bran.