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Optimization study for the High Production of Kojic Acid Crystals by Estuarine *Aspergillusoryzae* RMS2 Isolate

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Abstract: The present study describes the optimal conditions for the high production of kojic acid crystals by *Aspergillusoryzae* RMS2 isolate. Total eight physico-chemical factors such as incubation time, pH, temperature, carbon sources, nitrogen sources, minerals, NaCl concentration and fed-batch fermentation,which significantly influence the production were screened using the one factor at a time method. The results concluded that the organism produces kojic acid with a maximum yield (64 g/l) with fed-batch fermentation and biomass dry weight 15 g/l at the 12^{th} day of incubation, pH 5.0, temperature 30^{o}c, KH_2PO_4 (2 g/l), $MgSO_4$ (0.5 g/l), NaCl 2.5%, glucose and yeast extract in concentrations of 100 g/l and 5 g/l, respectively were the favorable factors for kojic acid production. On the other hand, total three agro-food waste substrates such as rice bran, wheat bran, ragi bran, wereused and those all substrates were subjected to acid hydrolysis. Rice bran given maximum production of 56 g/l kojic acid production followed by wheat bran 53 g/l and ragi bran 51 g/l.

Key words; *Aspergillusoryzae* RMS2, kojic acid crystals, carbon and nitrogen sources, fed-batch fermentation, agro-food wastes.

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