ABSTRACT

The present study describes the production of calcium gluconate by *Aspergillus niger GCU-I* in shake flasks and scale up investigations in 7.5L New Brunswick Scientific glass fermentor (Model: BioFlo-110 USA) with a working volume of 5L. The glucose salt- $CaCO_3$ medium was employed for the fermentation. The cultural conditions were optimized using 25ml cotton wool plugged conical flasks. The size of the spore inoculum was 1.0 ml (2.5×10^7 spores). The fermentation was completed 48hrs after spore inoculation. The parameters optimized were glucose (125 g/l), corn steep liquor (30.0ml), and $(NH_4)_2\ HPO_4$ (4.00g/l). Scale up studies in the fermentor reached maximum 36hrs after the addition of 24hrs old vegetative inoculum. The rate of agitation and aeration were 200rpm and 1.0v/v/m respectively. The reuse of fungal mycelium for calcium gluconate fermentation was also investigated. The results were encouraging up to third generation. Its further use resulted in reduced consumption of glucose.