ABSTRACT

In the present study, Bacillus subtilis was used to produce phytase enzyme that has role in increased absorption of phosphorus from phytate/phytic acid by using solid state fermentation. Wheat bran was used as substrate for solid state fermentation. Response Surface Methodology (RSM) with Rotatable Central Composite Design (RCCD) was used to optimize variables like liquid to solid ratio, temperature, incubation period and percentage of calcium carbonate in order to get desired results. Among all these variables, liquid/solid ratio is very important parameter that should be selected very wisely to get excellent enzyme activity. In this study ,10 % protein hydrosylate solution was used that is rich in carbon and nitrogen ratio. Enzyme showed its highest activity of 9.9 IU ± 0.1 at L/S 1:1, temperature 30 °c for 25.75 hours and 2.44 % of CaCO3.