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Strain improvement of aspergillus uvarum for improved production of cellulase and its immobilization on sodium alginate beads**Nikita Bhati, Shreya and Arun Kumar Sharma***Banasthali Vidyapith, India*

Back ground: Cellulose being a chief constituent in the plant cell wall is present in ample amount in nature as biopolymer. Cellulase enzyme belongs to the glycoside hydrolase family which cleaves the β -1,4-glucan bonds in cellulose into simple sugars. Cellulase along with ligninase, hemicellulase and other cell wall degrading enzymes is produced by numerous microbes (fungi, yeast and bacteria) which acts synergistically for the bioconversion of lignocellulosic biomass. Cellulase has huge potential in the industrial sector such as paper and pulp, textile, biofuel production etc. Conventional approaches are not commercially feasible to meet the growing industrial demands, further leading to the need for hyperproduction of this enzyme through strain improvement techniques and enzyme immobilization for reusability and storage stability. Therefore, we studied the effect of Ethyl methyl sulfonate (EMS) mutagen on *Aspergillus uvarum* and the reusability of enzyme by immobilizing them on sodium alginate beads.