

Oral Presentation

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Industrial aspects of protein production by filamentous fungi

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Aspergillus niger and *Trichoderma reesei* are filamentous fungi that are used extensively for large-scale industrial production of secreted proteins. Recombinant DNA technology has been employed to create strains that over-produce native proteins or that produce foreign proteins. Standard methods of strain construction involve use of strong promoters, insertion of multiple copies of expression cassettes into the genome, and, in some cases, secretion of a foreign protein as a fusion with a native, secreted protein. However, for manufacturing at industrial scale it is sometimes necessary to improve the productivity of the strains further. Despite the fact that our knowledge of the molecular genetics of filamentous fungi has improved dramatically over the last few years it has been difficult to use this knowledge for rational strain improvement. Consequently, classical strain improvement methods involving mutagenesis and screening are still important and continue to be improved. Aspects of strain and fermentation process improvement for industrial enzyme production will be discussed.