Yeast biodiversity and application in biotechnology -
Research at FIRI, Vietnam

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ABSTRACT

Yeast has been in existence in our civilization for thousands of years. Being one of the most important organisms in fermentation industry and biotechnology as well as the model for eukaryotic cells, yeast has been a subject of intensive study for many decades. Currently, around 1000 species of yeast are known. It is estimated that the number represents only about 1% of that exists in nature. The vast potential of yeast still awaits further exploration. The report summarized recent research activities on yeast biodiversity and application at culture collection of Food Industries Research Institute (FIRI). During last several years, the culture collection has achieved reasonable progress in diversifying itself by technological-oriented screening programs. Numbers of strains were found to be of scientific and technological interest, ranging from biotransformation of castor oil into $\gamma$-decalactone, conversion of xylose into xylitol or production of zymocin. Genes encoding enzymes of industrial importance were cloned and expressed using Pichia pastoris system. Starter culture and associated microorganisms of endangered traditional fermentations were conserved and characterized. Natural diversity study was also in focus with the description of several new yeast species.

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