Contribution ID: **152** Type: **Oral Presenter**

# EFFECTIVE USE OF ENZYME ZYMASE FOR ENHANCEMENT OF ETHANOL PRODUCTION COUPLE WITH PARAMETRIC EFFECT

*Monday 2 April 2018 16:40 (20 minutes)*

1Mohammad siddique2,3,*Abdul Sattar Jatoi, 2Muhammad Hassam Wajaht, 1Muhammad Najam Khan ,4Ali Nawaz Mangal,3Shaheen Aziz, 3Suhail Ahmed Soomro, 2Abdul Karim Shah
1Chemical engineering department ,BUITEMS Quetta
2Chemical engineering department Dawood university of engineering and technology Karachi
3Chemical engineering department Mehran university of engineering and technology Jamshoro
4Mechanical Engineering department BUITEMS Quetta

*corresponding author: siddiqnasar786@gmail.com

ABSTRACT
Pakistan has large sources of sugarcane crops coupled with significant amounts of molasses generated. Based on this a study is conducted to investigate optimal ethanol production focusing the effect of different operational and nutritional parameters. The parameters investigated are temperature, aeration rate, agitation and pH coupled with different doses of enzyme. This study focused to investigate the optimized dose of enzyme with different parametric effects. 2-10 g/l were utilized having a step size of 2. Other parameters ranged as follows; aeration rate 0.1vvm/l to 0.2vvm/l, 200-350rpm agitation, 30-45 degree centigrade and 5-6.5pH ranges were utilized with different enzyme dosage.. Saccharomyces servisae was used as a biocatalyst for ethanol production. The maximum ethanol production obtained at 0.2vvm/l, pH 5.5, agitation speed 300rpm and 35oC at 4g/l of enzyme was about 82g/l. This study found a novel method for utilizing the enzyme separately for enhanced ethanol production.
Key words: enzyme, industrial alcohol, molasses, operation condition

**Author:** NASAR, Siddique (BUITEMS)

**Presenter:** NASAR, Siddique (BUITEMS)

**Session Classification:** Interdisciplinary

**Track Classification:** Chemical & Material Engineering