

## **XYLANASE PRODUCTION UNDER SUBMERGED FERMENTATION BY ISOLATED *BACILLUS TEQUILENSIS* STRAIN AND ITS POTENTIAL APPLICATION IN ANIMAL FEED**

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### **ABSTRACT**

Poultry feed mainly contains large amount of Non-starch polysaccharides (NSP), which decrease energy utilization and absorption of other nutrients leading to depressed growth in broiler chicken. A xylanase has been produced from newly isolated strain *Bacillus tequilensis* under submerged fermentation in Horikoshi medium supplemented with wheat bran (0.5%), pH 8 and at 37°C. After optimization of various production parameters, xylanase production was increased 3 fold. The produced xylanase is stable in neutral to alkaline pH region upto 42°C. The suitability of this xylanase for use in animal feed was investigated. A xylanase dose of 500 µl enzyme dosage with 0.5g of poultry feed exhibited optimum release of reducing sugar and decrease in digesta viscosity at pH 6, after 21h of treatment. It was observed that, 87 % reducing sugar was released and viscosity decreases above 60 % as compared to control. These results indicated that a xylanase isolated from this strain and produced under given optimized conditions has great application in animal feed and is effective in releasing sugars from the feed aiding in the digestibility of feed.

**KEYWORDS:** Xylanase, Animal Feed, *Bacillus Tequilensis*, Poultry Feed Digesta Viscosity, Hemicelluloses