



**University of zabol
Graduate school
Faculty of Agriculture
Department of Animal Science**

**The Thesis Submitted to the Degree of M.Sc.
(In the Field of Animal Nutrition)**

Title
**Effects of Enzymes and Molass on Nutritive Value of
Common Reed Forage Ensilage in Sistan Region**

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Abstract

This experiment was carried out to study the effect of exogenous fibrolytic enzyme mixture (cellulase and xylanase) supplementation and molasses on chemical composition changes and improving of common reed forage digestion ensilaged by using a completely randomized experimental design with factorial arrangement of treatments (3×3×3). For this study fifty Kg of common reed forage at the time of growing was harvested and cut them to 1-3cm pieces and mixed with enzymes mixture and molasses at three levels and then ensilaged inside of plastic bins (baskets). Chemical composition measured was dry matter (DM), organic matter (OM), crude protein (CP), ash, saluble carbohydrates (WSC), calcume, phosphorus, cell wall (NDF), cell wall without hemicelluloses (ADF) and acidity (pH) then results were analysed. To investigate of DM and OM digestibility three best treatment in campared to the control group evaluted by *in vitro*, *in situ* and gas production experiments. The adding of enzyme and molasses significantly decreased pH (5.09 to 4.46), NDF (74.74 to 56.20) and ADF (46.05 to 34.29) percent and also significantly increased DM (29.96 to 34.98), WSC (9.13 to 14.40) and apparent digestibility of dry matter (20.38 to 47.19) percent. Results from this study indicate that direct supplementation of enzymes (cellulase and xylanase) at the level of 5 gram per Kg dry matter and molasses at 15 percent to common reed forage is capable of improving NDF, ADF and forage digestion and theses levels is recomended.

Key words: Common Reed, Nutritive Value, Fibrolytic Enzymes, Molasses.