

Abstract

This study has been conducted in order to determine chemical compounds and capability of digesting three different varieties of wheat called Hamoun, Hirmand and Sistan. For assessing the treatments, all wheat varieties were prepared by Foss mill in the measure of 2 mm; then thermal production was produced via oven in temperatures of 60, 70 and 75 °C for 6 and 12 hours. Chemical compounds, including dry material, raw ash, organic matter, protein, fat, and cellular membrane without Hemicellulose, were measured according to standard methods. Degradability of dry material has been assessed as in situ and finally degraded by complete randomized design. The findings of chemical compounds in Sistan variety show that control dry material is produced only by produced treatments in both 70 and 75 °C and production treatment in temperature of 60 °C in 12 hours has significant difference and also in control organic matter has significant difference with produced treatment only in 75 °C in 6 hours. Control ash, also, has significant difference only with produced treatment in 75 °C in 6 hours and control protein has significant difference with all produced treatments but control fat does not have significant difference with any produced treatments. Control ADF has only significant difference with produced treatments in 12 hours in 60, 70 and 75 °C. Degradability results on Hirmand treatment show that degradability in 3, 24 and 48 hours incubation, control treatment has significant difference with all produced treatments. Degradability in 6 hours incubation, control treatment has only significant difference with the produced treatments in 75 °C in two time of production and the treatment in 70 °C in 6 hours production has significant different. Degradability in 12 hours incubation, control treatment, except produced treatment in 75 °C in 6 hours has significant difference with all produced treatments. In metabolites percentage of degradable potential section (a+b) and section (a), control treatment has significant difference with all produced treatments. In fast degradable metabolites percentage (b), control treatment has significant difference with produced treatments in 70 °C in 12 hours and in 75 °C in 6 hours. In fast degradable metabolites percentage, control treatment has significant difference with produced treatments in 70 °C in 12 hours and in 75 °C in 6 and 12

hours. Thermal production is not effective on gas production process in Hamoon treatment.

Key words: Wheat, Starch, Rumen degradation , Gas production, Treatment



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**Effect of heat treatment on chemical composition,
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parameters of different varieties of wheat of
Sistan**

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