

Dedication

To the soul of my father
And to my mother

Acknowledgment

I am sincerely grateful to Dr. Shadia Abdalati Omer for her supervision, continuous support, help and kindness.

Thanks are extended to Dr. Mohammed Taj Eldeen Ibrahim for his valuable advices and help in the statistical analysis of the data.

I would like to appreciate the skilled technical assistance of Ustaza Rawda Hassan for her generous and technical support concerning this study and help in the analysis of the samples.

Great thanks to Ustaz Mukhtar, (SUST) - College of Vet. Medicine and Animal Production for his assistance and co- operation during the excusion of this study.

Special thanks and love are extended to my friends Esraa Mohammed Hassan and Mayada Mohammed Elmahde for always loving, encouraging and supporting attitude.

This work was kindly financed by the Ministry of Higher Education and Scientific Research.

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Abstract

The study was conducted to determine the effect of chemical treatment or combined chemical and physical treatments on dry matter (DM), crude protein (CP) degradation characteristics, and effective degradability of groundnut cake GNC. Chemical treatments were used 0.3% formaldehyde, 0.5N NaOH or 0.5N HCl. GNC was either soaked in the chemical or sprayed with it. The 0.5N NaOH or 0.5N HCl treated cake were either air dried or oven dried at (100°C). Nylon bags technique was employed using three castrated calves.

Treating with 0.3% formaldehyde, 0.5N NaOH or 0.5N HCl significantly ($P < 0.01$) decreased insitu dry matter and crude protein degradation rate as well as the effective degradability.

Treatment with 0.5N HCl heat dry was more effective than identical treatment with 0.5N NaOH in lowering the effective degradability, and the protein degradation rate. Both treatments had the same CP washing loss.

Soaking GNC in any of the used chemicals was significantly ($P < 0.05$) more effective than spraying it with the same chemicals. It can be concluded that combining chemical and physical treatments was effective in protecting GNC from rumen degradation. The results of this work were compared and discussed with other similar researchers findings.

ملخص الدراسة

أجريت هذه الدراسة لتحديد تأثير المعاملة الكيميائية أو المعاملة الكيميائية مع الفيزيائية علي معدل تكسير المادة الجافه ' البروتين الخام و التكسير الفعال لكسب الفول السوداني

المعاملة الكيميائية المستخدمه 3% فورمالدهايد، 0.5محلول نظامي هايدروكسيد صوديوم او 0.5 محلول نظامي حمض الهايدروكلوريك. تمت المعاملة اما بتشريب كسب الفول بالمواد الكيميائية أو برشها. جفف جزء من الكسب المعامل بالهواء في درجة حرارة الغرفة والجزء الاخر جفف بالحراره باستخدام فرن بدرجة 100 م وقد استخدمت تقنية اكياس النايلون باستخدام ثلاثه عجول مخصيه

المعامله بكل المواد الكيمياءيه اظهرت انخفاض معنوي في معدل تكسير
($p < 0.01$) ماده الجافه, البروتين) والتكسير الفعال لكسب الفول السوداني
المعالجه بحمض الهايدروكلوريك المجفف بالحراره اكثر فاعليه في تقليل
التكسير الفعال ومعدل تكسير البروتين من المعالجه بهيدروكسيد
الصوديوم المجفف بنفس الطريقه, بينما كلتا المعاملتين قللت من ا
لبروتين الذائب

كانت ($p < 0.05$) تشريب الكسب بأي من المواد الكيمياءيه المستخدمه معنويا
اكتر فاعليه من رشه بنفس المواد. يمكن القول ان استخدام المعاملات
الكيمياءيه مع الفيزياءيه كان فعالا في حمايه كسب الفول السوداني من
تكسير الكرش. نتائج هذه الدراره قورنت ونوقشت مع نتائج باحثين اخرين
مشابهة.