

**COMPARATIVE STUDIES ON THE EFFECT OF
DIFFERENT KINDS OF SILAGES ON
HEIFER'S PERFORMANCE**

By

ESAM MOHAMED MOHAMED ALI EL-KOTAMY

B. Sc. Agric. (Animal Production), Ain Shams University, 1996

M. Sc. Agric. (Animal Nutrition), Ain Shams University, 2002

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The thesis for Ph. D. degree has been approved by:

Dr. Said Ahmed Mahmoud.....

Prof. Emeritus of Animal Nutrition, Faculty of Agriculture, Kafr
El-Sheikh University

Dr. Hamdy Mohamed Khattab.....

Prof. Emeritus of Animal Nutrition, Faculty of Agriculture, Ain
Shams University

Dr. Salwa Mahmoud Hamdy.....

Prof. Emeritus of Animal Nutrition, Faculty of Agriculture, Ain
Shams University

Dr. Hussien Saad Soliman.....

Prof. Emeritus of Animal Nutrition, Faculty of Agriculture, Ain
Shams University

Date of Examination: 20 / 3 / 2010

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Under the supervision of:

Dr. Hussien Saad Soliman

Prof. Emeritus of Animal Nutrition, Department of Animal
Production, Faculty of Agriculture, Ain Shams University
(Principal Supervisor)

Dr. Mohamed Ali Abd El-Menaem El-Ashry

Prof. Emeritus of Animal Nutrition, Department of Animal
Production, Faculty of Agriculture, Ain Shams University

Dr. Salwa Mahmoud Hamdy

Prof. Emeritus of Animal Nutrition, Department of Animal
Production, Faculty of Agriculture, Ain Shams University

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Dr. Hussien Saad Soliman

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Production, Faculty of Agriculture, Ain Shams University
(Principal Supervisor)

Dr. Mohamed Ali Abd El-Menaem El-Ashry

Prof. Emeritus of Animal Nutrition, Department of Animal
Production, Faculty of Agriculture, Ain Shams University

Dr. Salwa Mahmoud Hamdy

Prof. Emeritus of Animal Nutrition, Department of Animal
Production, Faculty of Agriculture, Ain Shams University

Dr. Abd El-Khabeer Mohamed Abd El-Khabeer

Prof. Emeritus of Animal Nutrition, Department of Animal
Nutrition, Animal Production Research Institute, Agricultural
Research Center

ABSTRACT

Esam Mohamed Ali El-Kotamy: Comparative Studies on the Effect of Different Kinds of Silage on Heifer's Performance. Unpublished Ph. D. Thesis, Department of Animal Production, Faculty of Agriculture, Ain Shams University, 2010.

Two experiments were conducted in this study; the first one aimed to evaluate the chemical composition and some quality characteristics of maize stalks silage mixed with; (brewer and el-moffid or a grinded corn); bagasse silage with different ratios of berseem and bagasse silage with different levels of el-moffid.

The second study was conducted to investigate the effect of replacing berseem in growing buffalo heifer's diets with maize stalks silage (2.5% el-moffid) with or without 5% brewer. After 45 days from the ensiling process twenty four buffalo heifers in the 10th to 12th month's age with average body weight (BW) 143 kg; were randomly divided into three similar groups (eight per each group) according to their age and live body weights. Heifers were fed according to Animal Production Research Institute requirements for growing buffalo heifers **(APRI 1997)** as following: Group 1; animals (control) received 45% concentrate feed mixture (CFM), 10% rice straw and 45% berseem. Group 2; animals consumed 40% concentrate feed mixture (CFM), 10% rice straw and 50% maize stalks silage containing 2.5% el-moffid and 5% brewer. Group 3; animals received 40% CFM, 10% rice straw and 50% maize stalks silage containing 2.5% el-moffid. Water was offered to the heifers three times daily. Allowances were adjusted twice monthly, according to live body weight and average daily gain,

while one digestion trial, blood and rumen sampling were conducted before the end of this trial.

Chemical composition and quality characteristics of the silage were within the normal range of good silage. Control and G2 animals were superior than G3 animals in dry matter (DM), organic matter (OM), crude protein (CP), crude fiber (CF), ether extract (EE) and nitrogen free extract (NFE) digestibility coefficients and the values of total digestible nutrients (TDN) and digestible crude protein (DCP). Using maize stalks silages as a basal feed for buffalo heifers didn't has negative effects on average daily gain (ADG) as it was 1.157, 1.13 and 1.049 kg/day for G1, G2 and G3 groups, respectively. ADG in G1 and G2 groups were higher ($P < 0.05$) than in the G3 group. Feed efficiency was better in G2 and G3 vs. control group ($P < 0.05$), it was 7.71, 6.95 and 7.54 (on the base of kg DM intake/ kg daily gain) for G1, G2 and G3 groups, respectively. Blood serum parameters and rumen liquor values were within the normal range without any negative effects.

Generally, replacing berseem with maize stalks silages supported with some feed components such as brewer and el-moffid improved buffalo heifer's performance.

Key words: buffalo, heifers, maize stalks, silage quality, digestibility, average daily gain, rumen parameters and blood constituents.

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