Abstrac

This study was carried out to evaluate changes in chemical composition and nutritional value of watermelon plant silage treated with urea, fibrolytic enzymes and natural zeolite. For this study watermelon plant were harvested and chopped with cutting length about 3 to 4 cm. The chopped common watermelon plant were mixed with the urea (%5), fibrolytic enzymes (3 gr/kg DM) and natural zeolite (4 gr/kg DM) ensiled in 5 Kg plastic baskets. The silageas were opened after 45 day and chemical compositions inculuding dry matter (DM), ash, ether extract (EE), curde protein (CP), cell well and cell well without hemicelluloses fractions were measured according to the standard procedure (AOAC). Organic matter digestibility digestibility Organic matter in dty matter and metabolizable energy content and dty matter , digestibility were also determined by gas production *(in vitro*) and nylon bags (*in situ*) methods. Results showed that the addition of urea caused a significant decrease DM, ADF, NDF, EE content and increased CP and pH content (p< %5).Addition of fibrolytic enzymes caused a significant decreased ADF, NDF and OM content a sifsignicant increased CP content but natural zeolite decrease PH and increased NDF, ADF, dry matter (DM) and ether extract (EE) and so significant increased ash content (p< %5). In overall separate adding of urea, fibrolytic enzymes and natural zeolite and mixing three additives improved all watermelon plant chemical composition (p< %5). Digestibility results showed that urea and fibrolytic enzymes caused a sifsignicant increased in dry matter digestibility but natural zeolite only at 3, 6, 12, 24 and 48 houts increased the rate of digestion. Gas production results showed that urea reduced the volume of gas produced and fibrolytic enzymes increased gas production. Natural zeolite decreased the volume of gas produced.

Key words: Watermelon plant, Chemical composition, Gas production and Degradabilitiy.

University of Zabol
Graduate school
Faculty of Agriculture
Department of Animal Science

The Thesis Submitted for the Degree of Master of Science
(In the Field of Animal Nutrition Science)

Title:

Study of chemical compositions and dry matter degradability of watermelon plant treated with urea, fibrolytic enzyme and natural zeolite

Supervisor:
Dr. K. Shojaeian

Advisors:
Dr. M. Yosef Elahi
Dr. Gh. Jalilvand

By:
N. Badparva

June 2014