The nutrient degradability of *Acacia nilotica* pods offered to indigenous goats after mixing with wood ash or polyethylene glycol

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Introduction

- 6- 8 months dry season feed needed
- Commercial feeds are expensive
- Low quality roughages and wild fruits available
- *Acacia nilotica* trees abundant
- Produce protein-rich fruits
- Fruits collected and stored
- Fruit utilization constrained by anti-nutritional factors
- *Means of reducing effects of these*

Objective of the study

- To investigate the effect of tannin inactivation using wood ash (WA) and polyethylene glycol (PEG) on *A.nilotica (An)* fruits *in sacco*

Whole fruits

Crushed fruits

Materials and methods

Animals

- Indigenous male goats (3)
- All received hay *ad lib.* Plus 200g crushed *A.n* fruits

Treatments:

- 500g *A.n* mixed with equal weight of WA (MWA)
- 500g *A.n* mixed with 90 g PEG (MP)
- 500g *A.n* unmixed (UM

Methodology: Incubation

- 3 *3 Latin Square Design
- 12 bags per animal, 2 withdrawn at 3,6,12,24,48 & 72 hrs.
- Each period was of 3 days with a 24 hr changeover period.
- Analysis: one-way ANOVA

Results

Table 1.Chemical composition of the 3 treatment mixes

	MWA	MP	UM	s.e
DM gkg^{-1}	967^{c}	946^{b}	887^{a}	39.8
N $gkg^{-1}OM$	10^{a}	18^{b}	19^{c}	0.0
NDF$gkg^{-1}DM$	223^{b}	220^{a}	237^{c}	0.9
ADF$gkg^{-1}DM$	176^{a}	194^{b}	190^{b}	3.0
OM $gkg^{-1}DM$	958^{b}	966^{b}	482^{a}	3.2

Results cont.

Table 2. *In sacco* disappearance (PD) (PD = *a* + *b*) of *A.n* fruits **incubated in the rumen of the indigenous Matabele goats**

	MWA	MP	UM
DM	94.3	78.8	82.9
NDF	83.1	82.8	69.2
ADF	78.0	82.1	90.2
N	89.9	94.3	94.0

Conclusions

Wood ash

- increases rumen degradation of protein
- can increase intake of fruits
- can inactivate tannins
- is freely available in rural communities
- is a source of minerals

"I use ash, cassava and maize to form a balanced diet for the animals. The ash is for minerals and salts and the cassava and maize for carbohydrates"
livestock keeper from Uganda
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