

Introduction

Buffaloes are known for its high capacity to utilize fibrous foods such as high and low quality forages, but starch is the main energy source of a confined animal's diet and there are no studies about it.

Objective

The aim of the study was to evaluate fecal parameters indicative of starch digestibility of water buffaloes (*Bubalus bubalis*) of three genetic groups.

Material and Methods

Seventy-eight non-castrated males [n=26 of each GG; 200 kg of initial body weight (BW); 210 days of age] were used. Animals were finished in feedlot, receiving a diet rich in starch [38.76% in dry matter (DM) basis]. Samples of feces, diet offered, and orts were collected for digestibility test during 3 consecutive days. Diet samples were incubated "in situ" in the rumen of cannulated buffaloes. The remaining material was submitted to analysis to quantify the indigestible neutral detergent fiber levels. Fecal starch determination was performed by NIRS. Final BW, metabolic BW, average daily gain, and DM intake were recorded. Data were analyzed using MIXED and CORR procedure in SAS, with significance considered if $P \leq 0.05$.

Results

Table 1. Mean and probability values of starch digestibility, fecal starch concentration, fecal dry matter (DM), and fecal hydrogen potential (pH) of water buffaloes of three genetic group finished in feedlot.

Variables	Genetic Group			SEM	P-value
	Jafarabadi	Mediterranean	Murrah		
Starch digestibility, % DM	85.39	82.10	86.07	2.47	0.23
Fecal starch concentration, % DM	18.14	19.25	17.48	2.66	0.80
Fecal DM, %	91.30a	90.70b	90.60b	0.29	0.04
Fecal pH	5.66a	5.37b	5.90a	0.17	<0.01

SEM = standard error of mean; Different lower-case letters on the same line show significant difference ($P \leq 0.05$).

Highlights

- ✓ Starch digestibility and FS concentration are not influenced by GG, unlike fecal DM and pH.
- ✓ There are differences among GG of water buffaloes regarding fecal parameters.
- ✓ The high FS content and the low fecal pH may indicate the low capacity of water buffaloes to digest starch.

Conclusions

The research results provide evidence that water buffaloes are not able to use high-grain diets, and fecal parameters proved to be potential tools to evaluate the feedlot performance of these animals.



Cannulated water buffalo used in the study

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