

Comparative feed ingestibility and digestibility in cattle and buffaloes

I Voicu, G Burlacu, M Nicolae, M Olteanu

Institute of Biology and Animal Nutrition, 8113 Balotesti, Romania

Ingestibility and digestibility of three types of feeds, alfalfa half-silage (first growth, flowering stage), corn silage (waxy stage) and wheat straw, were investigated comparatively in growing cattle and buffaloes.

The investigations used 4 Simmenthal steers aged 18 months and 4 young buffaloes (*Bubalus indicus*) aged 24 months, weighing in average 430 and 340 kg respectively.

During the first phase of the study, the two silages were fed "ad libitum" as monodiets ; during the second phase, a concentrate feed was added to silages in order to balance the diets as energy and protein. The concentrate feed was 35 % corn for the alfalfa half-silage for both cattle and buffaloes and a mixture of corn, peas and sunflower meal (23 % of the diet) for the corn silage for both species.

Wheat straw was always given mixed with peas in order to meet the maintenance protein requirement.

Dry matter intake (g/kg^{0.75}) of alfalfa silage given as monodiet was 81.4 g in cattle and

65.7 g in buffaloes ; and 70.6 g and 52.3 g in cattle and buffaloes respectively, when it was given together with corn in the same diet (total diet intake 99.6 and 79.3 g/kg^{0.75} respectively).

When corn silage was given as monodiet, DM intake was 65.1 g in cattle and 85 g in buffaloes ; when corn silage was given together with the concentrate feed, DM intakes were 62.4 g and 79 g respectively (total diet intake 81.8 and 102.5 g/kg^{0.75} respectively).

Wheat straw intake was 58.5 g in cattle and 60.9 g in buffaloes and the total diet intake was 66.9 and 68.6 g/kg^{0.75}.

Large difference in nutrient digestibility between the two species were noticed when the two silages were given as part of a diet or as monodiets.

As concerns wheat straw, significant differences were noticed only in protein digestibility.

Standard deviation and comparison between means were calculated with Quattro Pro.

Feed	Cattle				Buffaloes				Sign. of the diff. between cattle and buffaloes			
	TDM	Digestibility (%)			TDM	Digestibility (%)						
	(*)	DE	DCP	DCF	(*)	DE	DCP	DCF	1	2	3	4
A 1	81.4	65.7	62.1	56.3	65.7	67.9	65.4	59.0	<0.01	<0.05	NS	<0.05
A 2	70.6	69.5	66.0	56.0	52.3	62.6	63.0	49.0	<0.01	<0.05	NS	<0.05
C 1	65.1	70.2	53.0	63.0	85.0	73.6	55.0	72.5	<0.01	<0.05	NS	<0.01
C 2	62.4	66.9	55.0	63.3	79.0	72.6	50.0	73.0	<0.01	<0.05	<0.05	<0.01
W	58.5	53.6	33.7	66.2	60.9	53.0	47.3	66.6	NS	NS	<0.05	NS

* = g/kg^{0.75} ; 1 = at DM/kg^{0.75} ; 2 = % DE ; 3 = % DCP ; 4 = % DCF ; A 1 = alfalfa half-silage given as monodiet ; A 2 = alfalfa half-silage within the diet ; C 1 = corn silage given as monodiet ; C 2 = corn silage within the diet ; W = wheat straw within the diet