

Forage intake, N and NDF flow to the abomasum and rumen pool sizes of NDF in *Bos indicus* (Boran) steers fed oat, lablab, native grass hay or wheat straw

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The objective was to investigate forage intake, NDF (neutral detergent fibre) and N flow to the abomasum and rumen pool sizes of NDF in Boran steers fed oat ((O) *Avena sativa*) hay, lablab ((L) *Lablab purpureus*) hay, or grass ((G) *Andropogon* sp, *Danthonia subulata*) hay or wheat ((W) *Triticum aestivum*) straw each supplemented with 1.3 kg DM of cotton seed cake. Four ruminally and abomasally cannulated steers (190 ± 15 kg) were used in a balanced 4x4 Latin square. The contrasts were : C1 (L vs O and G), C2 (O vs G) and C3 (W vs others). N and NDF contents (g/kg DM) were 7, 21, 11, 5 and 685, 510, 669, 777 for O, L, G and W. Total collection of faeces was used. The flow of N and NDF to the abomasum was estimated using the graphic alternative (McAllan and Smith, 1983, Br J Nutr, 50, 445-454) of the double marker method. Markers were Cr-mordanted straw and CoEDTA (Uden *et al*, 1980, J Sci Food and Agric, 31, 625-632). Manual evacuation of rumen contents were

made on 3 consecutive days (before, 4 and 8 h after feeding). To measure the potential digestibility of NDF in the forages, rumen contents and faeces were incubated in nylon bags for 240 h. Intake of G diets was significantly higher than O and intake of W significantly lower than others. Abomasal N flow (g/g N intake) was not affected although L diets had higher and W lower N intake. L diets had significantly (P<0.05) lower total tract and tended (P<0.1) to have lower rumen NDF digestibility than O and G which is in keeping with the higher indigestible NDF (INDF) pool in the rumen (P<0.001) and the higher amount of INDF in faeces (P<0.05) with L diets. Digestibility of NDF in the rumen (mean 0.61) and total tract (mean 0.62) were similar between G and O diets. Although lablab appeared the best hay owing to its chemical composition, this superiority was not reflected in intake and digestive parameters (N supply, NDF digestibility in the rumen).

	Oat	Lablab	Grass	Wheat	SEM	C1	C2	C3
Forage intake (g DM)	3065	3506	3619	2774	144.5	NS	*	**
N in feed (g/d)	122	175	140	114	6.9	**	NS	**
N at abomasum (g/d)	122	123	126	92	11.7	NS	NS	NS
NDF in feed (g/d)	2498	2182	2813	2541	81.8	**	*	NS
NDF at abomasum (g/d)	969	1143	1119	1282	138.8	NS	NS	NS
DNDF pool (g)	1090	871	1519	1585	124.4	*	NS	*
INDF pool (g)	1036	1998	1170	1435	101.1	***	NS	NS