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## Nutrients intake by the Ile-de-France lambs fed up with diets containing sugar cane forage variety or corn silage

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**Key words** : corn silage , nutrition , roughage :concentrate ratio , sheep , sugar cane

**Introduction** The need to provide an intensive lamb production and the productive stationality of forage of good quality drive the farmers to adopt practices of forage conservation and also insert the sugar cane in the diet , once it presents a major nutritive value at the dry season . The main factor for the animal performance is the feed intake , which demands farther studies about how to feed better of the ruminants . This work aimed to assess the nutrients consumption for the Ile-de-France lambs fed up with corn silage or sugar cane as roughage into two roughage :concentrate ratio .

**Materials and methods** 16 Ile-de-France males lambs were used , distributed in four treatments as such : 60% CS :40% C-60% of corn silage plus 40% of concentrate ; 60% SC :40% C-60% of sugar cane plus 40% concentrate ; 40% CS :60% C-40% of corn silage plus 60% of concentrate ; and 40% SC :60% C-40% of sugar cane plus 60% of concentrate . The forage variety of sugar cane used in this experiment was the IAC-862480 . The diets were isoproteic and isoenergetic with 19 .70% of crude protein and 2 .50 Mcal/kg/DM of metabolizable energy . Samples of feces and urine offered the contents of dry matter (DM) , organic matter (OM) , mineral matter (MM) , crude protein (CP) , ethereal extract (EE) , neutral detergent fiber (NDF) and acid detergent fiber (ADF) . The total carbohydrates (TCHO) were obtained by the equation :  $100 - (\% CP + \% EE + \% MM)$  and non-structural carbohydrates (NSC) , via the difference between the TCHO and NDF (Sniffen et al . , 1992) . The consumption of each nutrient was calculated by the difference between the intaken nutrient and the quantity of nutrient present in the feces , duly expressed in the DM . The data were submitted to a variance analysis and compared to the Tukey test at 5% probability basis .

**Results** There was no difference ( $P > 0.05$ ) regarding the intakes of DM , OM , CP , TCHO and NSC . However , the intakes of MM and EE showed to be minors in the treatment with 60% SC :40% C , from 37 .51g e 9 .52g/animal/day , respectively , capable of explain by the low content of these in the sugar cane (Table 1) . The consumption of NDF and ADF were greater for the treatment with 60% CS :40% C , from 358 .9 and 163 .2g/animal/day , probably due to a major quantity of corn silage in this treatment . At this work , the greatest content of NDF was found in the treatment with 60% CS :40% C , which resulted in a major consumption of NDF .

**Table 1** Intakes of dry matter (DMI) , organic matter (OMI) , mineral matter (MMI) , crude protein (CPI) , ethereal extract (EEI) , neutral detergent fiber (NDFI) , acid detergent fiber (ADFI) , total carbohydrates (TCHOI) and non-structural carbohydrates (NSCI) for the Ile-de-France lambs fed up with diets containing corn silage or sugar cane forage variety .

Variable (g/animal/day)	Treatment <sup>a</sup>				VC (%)
	60% CS : 40% C	60% SC : 40% C	40% CS : 60% C	40% SC : 60% C	
DMI	1157 .40	836 .40	1160 .60	1016 .00	12 .45
OMI	1093 .00	798 .80	1095 .50	962 .50	12 .50
MMI	64 .42a	37 .51b	65 .02a	53 .49ab	12 .00
CPI	219 .37	165 .51	238 .77	209 .06	13 .48
EEI	36 .60a	9 .52c	36 .75a	20 .97b	9 .91
NDFI	358 .91a	189 .16b	262 .37b	186 .61b	12 .31
ADFI	163 .20a	102 .52b	126 .61ab	91 .26b	12 .76
TCHOI	837 .03	623 .82	820 .01	732 .49	12 .49
NSCI	478 .11	434 .66	557 .65	545 .88	13 .42

Averages followed by the same letter in the line do not differ by the Tukey test ( $P > 0.05$ ) .

<sup>a</sup>60% CS :40% C-60% of corn silage plus 40% of concentrate ; 60% SC :40% C-60% of sugar cane plus 40% of concentrate ; 40% CS :60% C-40% of corn silage plus 60% of concentrate ; 40% SC :60% C-40% of sugar cane plus 60% of concentrate .

**Conclusions** The sugar cane forage variety in any proportion studied , did not affect the crude protein and dry matter intakes , the main nutrients for the animal performance . However , at a larger proportion of sugar cane in the lambs diet , offers low consumption of both mineral matter and ethereal extract .

### Reference

SNIFFEN , C . J . ; CONNOR , J . D . ; VAN SOEST , P . J . A net carbohydrate and protein system for evaluation cattle diets . II Carbohydrate and protein availability . *Journal of Animal Science* , Savoy , v . 70 , n . 11 , p . 3562-3577 , 1992 .