The Intake, Digestibility, Rumen Ammonia, and Daily Gain of Kacang Goats Consuming Native Grass Supplemented with Leucaena Leaves as Compared to Urea

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INTRODUCTION

Productivity of Kacang Goat in East Nusa Tenggara Province is still low

→ The low rate of multiple births, loss of body weight, and the high rate of mortality for young goats at an early age, consumed low-quality feed, and lost 20 grams of body weight per day during the dry season Bamualim et al. (1988)

The Cause Of low Productivity is The low availability both the quantity and quality of the feed especially in dry season

→ Crude protein content drops to 3% (Riwukaho, 1993; Jelantik, 2001) and in vitro digestibility is close to 40% (Jelantik, 2001).

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low Intake, Digestibility, Rumen Ammonia, and Daily Gain of Kacang Goats

Introduction Continue

To increace the productivity of the kacang goat in East Nusa Tenggara by means supplemented with Leucaena Leaves or Urea or combination of both

To Evaluate whether there is different effect of supplementation of Leucaena Leaves or Urea or combination of both on Intake, Digestibility, Rumen Ammonia, and Daily Gain of Kacang Goats , this research is conducted

Methodology

16 male local goats with ages ranging from 8-10 months with an initial body weight of 12.4 kg

Design used was a completely randomized design with 4 treatments and 4 replications.

The treatments tested namely: C: dry natural grass + 30% milled corn as a control; U: C + 100% urea; UL: C + 50% urea + 50% Leucaena leucocephala and L: C + 100% Leucaena leucocephala.

Methodology Continue

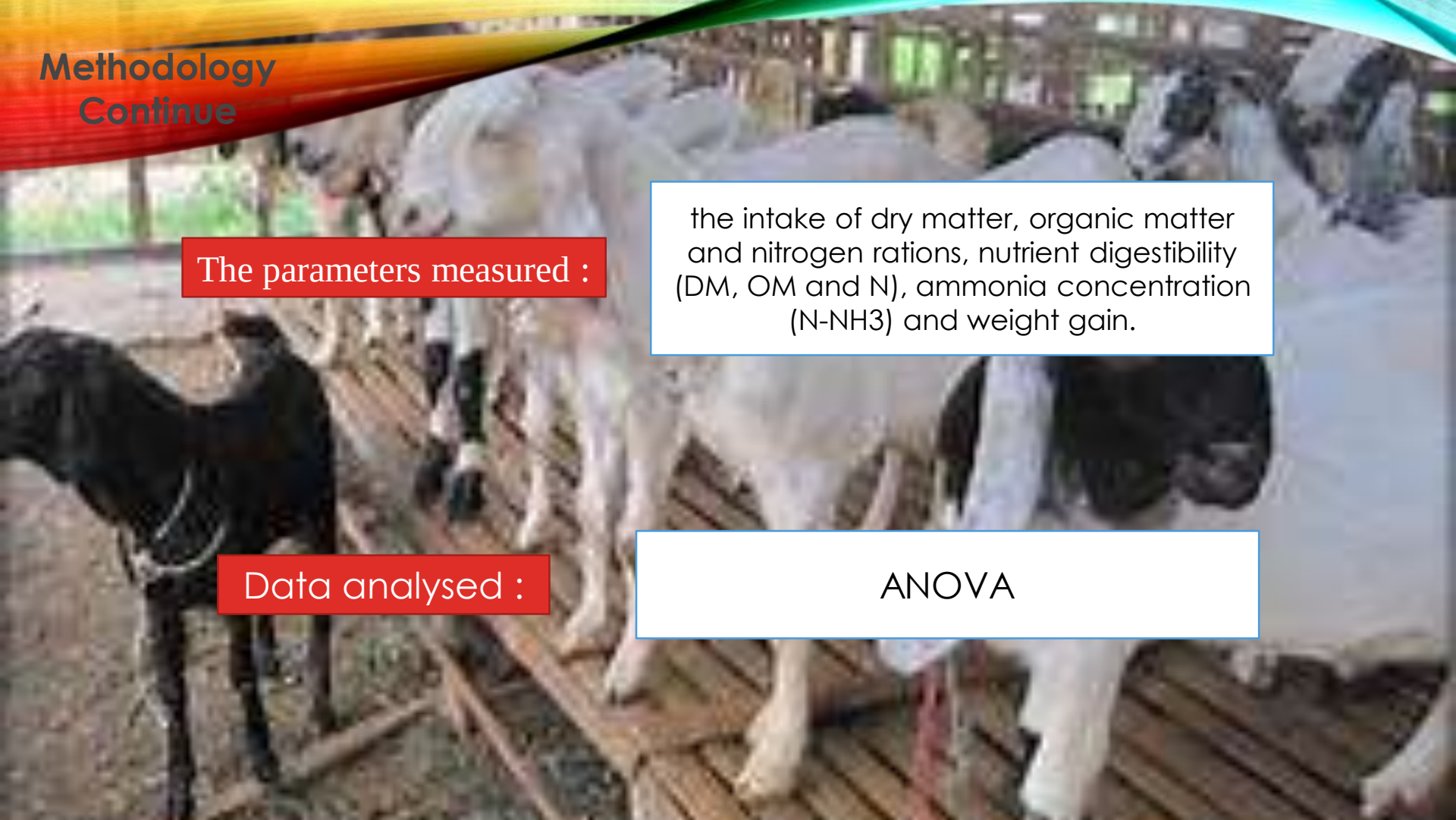
Table 1. Composition of Experimental Rations

Feed (gDM)	C	U	UL	L
Hay	*Ad libitum*	*Ad libitum*	*Ad libitum*	*Ad libitum*
Corn	108	108	108	108
Urea	-	6.7	3.4	-
Leucaena	-	-	40	80

Table 2. Chemical composition of the ration

Chemical composition (%)	Hay	Corn	Leucaena	Urea
Crude protein	5.39	7.24	24.4	288.0
EE	2.99	4.47	3.40	-
OM	90.4	99.0	86.6	100
CHO	82	87.3	58.8	0

Methodology Continue



The parameters measured :

the intake of dry matter, organic matter and nitrogen rations, nutrient digestibility (DM, OM and N), ammonia concentration (N-NH3) and weight gain.

Data analysed :

ANOVA

RESULT

Tabel 3 : The effect of giving urea and Leucaena supplements and their combinations on nutrient intake, digestibility, and daily gain in goats consuming dry grass

	Treament				P
	C	U	UL	L	
Intake :					
Grass (gr/day)	225.52b	209.54a	218.18ab	225.81b	0.1093
Total (gr/day)	333.52a	322.56a	358.73ab	393.81b	0.0073
Total intake (gr/kg BW0.75)	46.77a	42.26a	44.29a	47.82a	0.5288
OM intake (gr/day)	310.79a	318.68a	350.01b	380.33b	0.0014
CP intake (gr/day)	19.98a	38.41b	39.13bc	39.51c	<0.0001
Digestibility (%) :					
DM digestibility (%)	61.81a	52.09ab	55.00ab	47.17b	0.062
OM digestibility (%)	62.06	54.94	57.22	49.85	0.0799
CP digestibility (%)	42.45a	66.24b	72.37b	62.19b	<0.0001
NH3	37.03a	116.36c	93.33d	68.29b	<0.0001
					<0.001

Note: different letters on the same line indicate significant differences (P <0.05)

CONCLUSION

The supplementation of Leucaena either alone or in combination with urea increases the level of intake of dry matter and organic matter. Meanwhile, supplementation of both urea and Leucaena significantly increased protein intake.

The supplementation of urea and protein bypass and their combination was not able to improve the digestibility of dry matter and organic matter, but supplementation of undegraded protein feed increased the digestibility of the protein.

The Supplementation of urea and bypass protein and their combination increases the ammonia concentration of the rumen fluid from suboptimal levels (below 50 mg / l) to optimal between 62.19 to 72.37 mg/l.

Supplementation of protein increases the daily weight gain of goats and supplementation of Leucaena leaves either alone or in combination with urea provides a higher daily weight gain compared to urea alone.


THANK YOU