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Presenter Information

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Effect of forage feeding on goat meat production : carcass characteristics and qualities of Creole kids reared either at pasture or indoors

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Key words : tropical grass, fattening, carcass yield, carcass cut, chemical composition, Creole goat

Introduction Creole meat goat and grazing are the main characteristics of goat farming in the Caribbean (Alexandre et al., 1999). Grazing areas are gradually disappearing in such small territories. A forage-fed diet, however, remains an important selling point to satisfy consumer expectations for goat meat. The objective of this study was to test the effect of forage feeding either at pasture or indoors on carcass characteristics and qualities of Creole kids.

Materials and methods Two modes of feeding (F) were compared at pasture (PF, n=42) or indoors (IF, n=37). After weaning (84 days, 9.2 kg LW), kids were fed from the same stand of tropical grass (14% CP and 34% ADF). In both feeding groups, they were slaughtered, either at 11 or 15 months of age, according to the standard procedures for assessment of carcass traits, carcass cutting and shoulder dissection.

Results and discussion The kid's ADG were lower in PF than in IF group (Table 1). In PF goats, ADG decreased between the 11- and 15-month slaughter dates but remained similar between slaughters for IF goats. This treatment difference could be explained by the exposure to parasitic infestations (Aumont et al., 1997) associated with pasture grazing. Consequently, the slaughter weight (SW) remained similar in PF groups while the IF kids reached 4.4 kg more between the 11- to 15-month slaughters. The carcass weight followed the same trend as the SW. There was no significant effect of the F on the carcass yield that reached a good level and was higher than for other tropical breeds fed forage only (Mahgoub et al., 2005). The distribution of primal cuts remained similar (approximately 62%) independent of the F treatment and was diversely affected by age (Table 1). The leg represented 31% of the carcass and varied on the same scale as those of well-conformed genetic breeds (28% to 33%) as reported by Sen et al. (2004) and Webb et al. (2005). There was a F treatment effect on tissue partitioning of shoulder (Table 1). Whatever the trait related to the lipid evaluation in the carcass, the values appeared to be very satisfactory (low fat cover score and fat percentage in shoulder) for consumer expectations. This is in agreement with a well known characteristic of the goat species that tends to have more fat deposits in the abdominal cavity (Warmington and Kirton, 1990). The muscle proportion reached 71% as reported for fleshy breed Webb et al. (2005).

Table 1 Carcass traits of Creole kids according to feeding mode and age at slaughter.

Feeding mode (F)	Pasture		Indoors		Significance			
	Age at slaughter (months)	11	15	11	15	Age	F	Age × F
ADG (g .d ⁻¹)		43.9	33.2	46.6	47.3	*	**	*
Slaughter weight (SW, kg)		21.2	21.6	20.5	24.9	*	**	**
Hot carcass weight (kg)		7.9	8.8	7.4	10.3	**	**	**
Carcass yield (% empty SW)		52.8	53.3	55.3	52.1	**		*
Conformation score (1 to 5)		3.4	2.9	2.7	3.6	**		*
Fat cover score (1 to 5)		3.0	2.4	1.8	2.1	*	*	*
Shoulder (% carcass)		18.7	19.6	19.8	19.1			
Neck (% carcass)		11.0	13.1	12.3	13.5	**		
Long leg (% carcass)		30.7	31.2	31.5	29.7	**		**
Intermuscular fat (% shoulder)		5.5	4.6	5.8	5.1		*	*
Bone (% shoulder)		22.8	22.0	22.7	20.7	*	*	*
Muscle (% shoulder)		69.3	70.1	69.1	72.5		*	*

Conclusions The main carcass traits and qualitative parameters of the Creole goat of Guadeloupe seemed to be a good incentive for the local goat sector. Indoor feeding system could be implemented in small territories in case of low availability of grazing areas.

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