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West African Dwarf goat response to supplementary feeding in Cameroon

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Keywords: *Calliandra calothyrsus*, *Leucaena leucocephala*, supplementation, West African Dwarf Goat

Introduction The production of the West African Dwarf goat (WADG) in Cameroon is very low, because of lack of proper nutrition. Nitrogen content is generally very low and fibre content is high, both in the grass and the crop residues which form the basis of their diet particularly during the dry season. Supplementation of these roughages is a promising way of alleviating nutrient deficiencies. Different types of supplementary feeding have been advocated to boost goat production (Leng, 2003), of which supplementary feeding with leguminous tree leaves is of high merit. The present study was undertaken to evaluate the effects of supplementary feeding of *Calliandra calothyrsus* and *Leucaena leucocephala* leaves on growth and reproduction of WADG.

Materials and methods The study was conducted on 24 WADG in both the dry season (Nov. 2001 to April 2002) and in the rainy season (March to Sept. 2003). The WADG grazed on mixed pasture comprised of *Brachiaria ruziziensis* and *Pennisetum purpureum* between 09.00 and 17.00 h daily. After about a month, two bucks were introduced into the herd for two months and breeding allowed. The males were removed thereafter. Twelve goats received supplementary feeding with *C. calothyrsus* and *L. leucocephala* leaves mixed in equal quantities by weight. The mixture was left in the pens in the afternoon (16.00h) at the rate of 800 g/goat for eating at night. The remaining 12 goats served as unsupplemented controls. Observations were made of: (i) consumption of the supplement, (ii) goat growth by weighing on the day of the start of supplementation, just before and after kidding and every two weeks thereafter up to three months, (iii) number and sex of kids born. The data were analysed statistically (Steel & Torrie, 1980).

Results On average the goats consumed between 700 and 800 g of the foliage supplement per head per day. Neither the stage of reproduction of WADG or the season had any significant effect on the quantity of supplement consumed. Similar proportions of goats in the control and the supplemented groups became pregnant (Table 1), in line with conception taking place before commencement of supplementation. A substantially higher proportion of goats (91.7%) became pregnant during the rainy season as compared to 87.5% during the dry season. Abortions were recorded in 33% of the control goats compared to only 5% of the supplemented animals. While 24 supplemented goats gave 24 kids, only 20 kids were obtained from the unsupplemented goats. The body weight of and the profile of the dam's body weight losses after parturition during the dry and rainy season are shown in Figure 1. On average, the control and the supplemented goats lost similar weight (7.5 vs 7.4%) at kidding. During the three month post-kidding period, the supplemented goats continued to have 11-15% higher body weight than their respective controls in the dry season.

Table 1 Reproductive performance of goats in different seasons and on different feeding regimes

		Season	Pregnant	Abortion	Number of kids	Males	Females
Control	Dry	n=12	11	4	8	5	3
	Rainy	n=12	11	2	12	6	6
Supple-mented	Dry	n=12	10	1	10	6	4
	Rainy	n=12	11	0	14	7	7

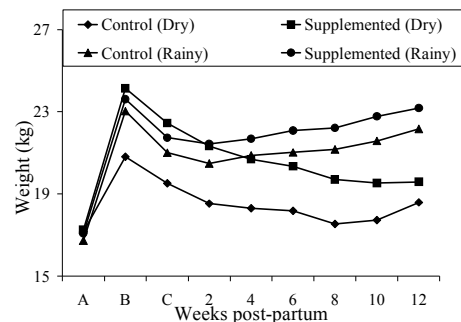


Figure 1 Change in body weight in goats in the dry and rainy seasons with different feeding regimes (A, at beginning; B, before kidding; C, at kidding)

Conclusion Supplementary feeding with multipurpose leguminous tree browse in Cameroon proved to be highly beneficial for goat production. It helped to substantially reduce the incidence of abortion and increased the overall yield of kids per animal. Pregnancy rate was higher during the rainy season than in the dry season.

References

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