



Influence of supplementary feeding with multipurpose leguminous tree leaves on kid growth and milk production in the West African dwarf goat

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Abstract

The influence of supplementary feeding using multipurpose leguminous leaves on the reproductive performance, milk production and kid growth in 24 West African dwarf goats (WADG) was carried out at Dschang University Animal Farm between June 2001 and July 2003. In addition to grazing on natural pasture, the group receiving feed supplement was given a mixture comprising the leaves of *Calliandra calothyrsus* and *Leucaena leucocephala*. Results indicate that during the dry and rainy seasons, the leaves had a higher content of protein compared to the grasses while the grasses were richer in cellulose. As a result of supplementary feeding, there was a marked reduction in abortion incidences. The average birth weight of the kids in the supplemented group (1.35 ± 0.08 kg) was significantly ($P < 0.05$) higher than in the control group (1.12 ± 0.10 kg) during the dry season whereas the difference was not significant during the rainy season. At weaning age, the average kid weight in the supplemented group was significantly ($P < 0.05$) higher than that in the control group during both the dry (5.95 ± 0.45 kg versus 3.56 ± 0.45 kg) and rainy (6.22 ± 0.33 kg versus 4.64 ± 0.19 kg) seasons. Kids from the goats receiving supplements gained 67.1% more weight during the dry season whereas only 34.1% more weight was gained during the rainy season in comparison to the control group. Average weekly milk production in the goats receiving supplements was almost double that produced by the control group in dry season (361 ± 11 g versus 183 ± 43 g) and about 32% more milk was produced during the rainy season. There was a positive correlation between weight gain and milk production which was highest in the group receiving supplements during the dry season ($r^2 = 0.96$). This study has revealed that the reproductive performance, milk production and kid growth will be greatly improved in the WADG when the feed from natural pasture is supplemented with the leaves of *C. calothyrsus* and *L. leucocephala*. © 2005 Elsevier B.V. All rights reserved.

Keywords: West African dwarf goats; Supplementary feeding; *Calliandra calothyrsus*; *Leucaena leucocephala*; Growth; Milk production

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