Summary

The effect of supplementing native savanna with energy and protein banks was evaluated in two experiments at the Centro Nacional de Investigaciones ICA-CIAT Carimagua (4° 37' N, 71° 13 W, 2100 mm annual rainfall, and 22 °C). The native savanna, composed of *Trachypogon vestitus, Paspalum pectinatum, Leptocoryphium lunatum,* and *Andropogon bicornis* was managed with 0.25 or 0.50 animals/ha and with sequential burning three times per year. Trial 1 evaluated supplementation with an energy bank of *Andropogon gayanus-Stylosanthes capitata* (2000 m^2/animal); Trial 2 compared the energy bank with a *Pueraria phaseoloides* protein bank (2000 m^2/animal).

The liveweight gain by Zebu steers was measured in each treatment. In addition, the quantity of forage on offer in the savanna, and banks, the frequency of grazing savanna and banks and the quality of the diet selected by the esophageal-fistulated animals were also measured.

In Trial 1, annual weight gains were higher when the animals had access to the energy bank, being greater (52%) for the low stocking rate than for the high stocking rate treatments (29%). This effect was more pronounced during the rainy period. The higher weight gain of the animals with access to the energy bank was

related to higher digestibility of the diet selected in the bank (47% IVDMD) as compared with savanna (40% IVDMD). In Trial 2, annual weight gains were 39% higher with in the energy bank than in the protein bank, and as in Trial 1, the benefit of the energy bank was greater with the low stocking rate (49%) than with the high stocking rate (29%).

In the dry period, weight gains of animals with access to the energy bank were higher (43.5 kg/animal) than for those with access to the protein bank (34.5 kg/animal). These results were associated with an atypical dry period during the year 1989. The CP level in the diet was higher in the protein bank (15.5%) than in the energy bank (10%) and savanna (10.5%). In contrast, IVDMD was higher in the energy (46%) than in the protein bank (41%), and savanna (39%).

The higher weight gains associated with the energy bank were related to an effective grazing time of 40% to 50% and to an 8% unit increase in digestibility of the selected forage. This confirms that low digestibility of native savanna managed with burning in the Colombian Llanos Orientales limits animal production.