

# Summary

Two experiments under controlled conditions were conducted to assess short- and long-term effects of pasture type on milk production and reproductive performance of dual-purpose cows in a lowland tropical setting. Both were carried out in support of on-farm testing of grass-legume associations.

The first experiment employed 12 lactating cows deployed in three latin squares subject to four treatments. The four treatments resulted from the factorial combination of two pastures (*Brachiaria decumbens* with and without associated legumes) and two levels of supplementation with cotton seed meal (0 and 1 kg/head per day). Cows were grouped into latin squares based on current milk yields (once-a-day milking with calf on foot). The only significant difference (13%,  $P < 0.03$ ) between pastures was found in the latin square with the highest yielding cows (mean 4.88 kg/day). With these cows, supplementation had a slight positive effect that was significant only at  $P < 0.09$ .

The second, independent, experiment examined the effect of the same type of pastures on reproductive performance. Two separate herds of creole dual purpose cows were continuously grazed on *B. decumbens* alone or associated with *Centrosema acutifolium* for a full lactation. Milk yields were reported by Ramírez (1994a, 1994b). Large and significant differences were found in accumulated weight gains, and these were associated with differences in reproductive performance despite some incomplete data on conception. Available data was manipulated to generate probabilities for reconception and calving intervals. The results suggests that differences in reproductive performance in animals with limited milking potential may be very large.

The results of the two sets of experiments are used to suggest an approach based on short- and long-term experiments to assess immediate and long term cumulative effects in dual purpose production systems.