

# Summary

Between October 1996 and October 1997, three calf raising systems and their effect on improved milk production in dual-purpose systems were evaluated on four farms located in Peru's Ucayali region, along the Federico Basadre road, between kilometers 64 and 78. Prevailing soils were Ultisols, with acid pH, high interchangeable Al content, low base saturation, and low N, P, K, S, and OM contents. The treatments studied were as follows:  $T_1$  = complete separation of calf from its mother and grazing in paddocks of *S. guianensis*, restricted suckling, and residual milk;  $T_2$  = similar to  $T_1$  plus supply of concentrate; and  $T_3$  = improved control, consisting of calf remaining 8 h with its mother, followed by grazing on *S. guianensis*. The last two treatments were studied on one farm, and two factors were studied on another farm as follows: (a) hours of permanence of calf with its mother (0.5 and 1 h) and (b) amount of milk provided to calf after milking (residual milk and access to a non-milked teat). The variables evaluated were live weight gain of calf, salable milk, total milk, cost of technology, parasitic rate, and sanitary condition. Treatments were distributed using three designs: a Latin square design, a completely randomized design, and completely randomized design with factorial arrangement. Live weight gains in the treatment with concentrate were significantly superior ( $P \leq 0.05$ ) on all four farms, weight increasing between 0.50 and 0.82 kg/day. The production of salable milk and total milk was higher ( $P \leq 0.01$ ) in treatments in which the calf was separated from its mother during 24 h, with increases of 20%. The best economic response was found when calves consumed the legume. Therefore, the consumption of *S. guianensis* by lactating calves helps satisfy their nutritional requirements while producing higher economic profits.