

Summary

At CIAT's Quilichao substation, Colombia (3° 6' N, 76° 31' W; 1700 mm; 990 m.a.s.l.; 24 °C), milk production of upgraded Holstein and zebu x European crossbred cows was measured in two groups of pastures: (1) *Brachiaria dictyoneura*, *B. dictyoneura*-*C. acutifolium*, *B. dictyoneura*-*C. macrocarpum*, and (2) *Andropogon gayanus*, *A. gayanus*-*C. acutifolium*, *A. gayanus*-*C. macrocarpum*. The six pastures, of 1 ha each, were distributed randomly in the field and were grazed with 1 cow/ha. A changeover design with complete blocks, three cows and three periods of 14 days, was used to measure milk yield in each group of pastures. In all cases, cows were allowed a 7-day adjustment period prior to a 7-day measurement period.

Milk yield was measured in four phases, which included two dry periods (July-September 1989 and August-September 1990) and two rainy periods (September-October 1989 and February-April 1990). In each measuring period, forage samples were cut to determine availability, botanical composition, and quality of the grass on offer.

Milk yield was, on the average, 20% (1.5 kg) higher in *B. dictyoneura* pastures associated with legumes than in the grass alone. With *A. gayanus*, a significant legume effect on milk yield was found only when it was associated with *C. acutifolium*; in this case, the increase was 15% (1.2 kg) in relation to the grass alone. In both groups of pastures, there was a positive legume effect on milk production, regardless of the season of the year, type of cow, or its lactation stage.

This study indicates that by using grass-legume pastures, milk production of cows with medium good genetic potential can be increased significantly in tropical areas with acid soils.