

# Summary

Dry matter (DM) production, persistence, and relative compatibility index (RCI) were evaluated on the forage legumes *Desmodium ovalifolium* CIAT 350, *Stylosanthes capitata* CIAT 1693, *Stylosanthes guianensis* CIAT 184, *Centrosema macrocarpum* CIAT 5065, *Centrosema pubescens* CIAT 438, and *Pueraria phaseoloides* CIAT 9900 when grown independently and in association with *Andropogon gayanus* CIAT 621 and *Brachiaria dictyoneura* CIAT 6133. The evaluation was done in a Typic Tropudult Ultisol at the experimental station CIAT-Quilichao, Colombia (lat. 3° 06' N, long. 76° 31' W, 990 m.a.s.l., 23°C, and 1800 mm annual precipitation). Evaluations were done on 5.0- x 2.5-m plots every 3, 6, 9, and 12 weeks during two periods of both minimum and maximum rainfall. Species in association were planted alternatively in rows.

Results revealed a close relationship ( $P \leq 0.01$ ) between DM production, rainfall, and days-to-sprout. All legumes were severely affected by the first dry period (-243 mm). *Desmodium ovalifolium*, *S. guianensis*, *C. macrocarpum*, and *C. pubescens* had the best DM production during rainfall periods.

Legume DM production when planted in association was inferior to that of the grasses. *Andropogon gayanus* gave the best RCI with the legumes. Weed overgrowth in the legume-only plots took place from the onset of the first minimum rainfall period.