

Summary

Between January 1992 and February 1995, the forage production and nutritive quality of 30 accessions of shrub legumes were evaluated in the Bolivian provinces of Chapare and Carrasco, department of Cochabamba (between $17^{\circ} 50'$ and $20^{\circ} 65'$ S, and between $64^{\circ} 50'$ and $68^{\circ} 65'$ W). Experimental sites were: Ichoa and Chipiriri, soils with high sand content; La Jota, clayey soils; and San Julián, soils with high silt content. In general, soil pH was low (< 4.9), but Ca, Mg, and K contents were suitable for forage species development. Al saturation was high ($> 60\%$) in all soils, except those of San Julián. Ecosystems at the experimental sites are tropical rain forest and seasonal semi-evergreen, with

average temperatures ranging between 24.5 and 25.5 °C and annual precipitation between 3,286 mm (in Ichoa) and 5,763 mm (in Chipiriri). Altitude ranges between 200 and 325 m.a.s.l. The equivalent of 50 kg P and 30 kg K were applied per hectare during trial establishment.

Approximately 120 days after planting, when plants reached an average height of 2 m, these were cut to 50 cm above the ground for uniformity. Total dry matter (DM) production, fine (plant parts < 6 mm) and course fractions of the plant, weekly growth, number of regrowths, and disease and pest incidence were assessed, as of July 1992, during three periods of maximum and three of minimum precipitation. A randomized block design, arranged in split plots, was used (main plot = locality; subplot = accession) with two replications.

Accessions showed differences in the characteristics under evaluation. CP, P, and Ca contents were higher in the fine fraction than in the course fraction. *Calliandra* sp. CIAT 20400, *C. gyroides* CIAT 3001, CIAT 13548, and CIAT 23748; and *F. macrophylla* CIAT 7184, CIAT 19453, and CIAT 20626 were outstanding regarding nutritive quality, at the four test sites. Regarding forage yield for animal nutrition, nutritive quality, and distribution of production year-round, legumes considered promising for the prevailing soil and climatic conditions at each site were: (a) for San Julián, *F. macrophylla* CIAT 20626, CIAT 7184, CIAT 801, and CIAT 19453; *Calliandra* sp. CIAT 20400; *M. strobilifera* CIAT 17412; *C. gyroides* CIAT 13548; *A. angustissima* CIAT 20126; and *L. leucocephala* CIAT 17474; (b) for Chipiriri, *Calliandra* sp. CIAT 20400; *A. angustissima* CIAT 20126; *C. gyroides* CIAT 13548; *F. macrophylla* CIAT 20626, CIAT 7184, and CIAT 801; and *M. strobilifera* CIAT 17412; (c) for La Jota, *Calliandra* sp. CIAT 20400; *F. macrophylla* CIAT 801, CIAT 7184, CIAT 19453, and CIAT 20626; *C. gyroides* CIAT 13548, CIAT 3001, and CIAT 23748; (d) for Ichoa, *C. gyroides* CIAT 13548, CIAT 23748, and CIAT 3001; *Calliandra* sp. CIAT 20400; *F. macrophylla* CIAT 20626, CIAT 7184, and CIAT 801; and *Tadehagi* sp. CIAT 13274.