Summary

Nine accessions of tropical grasses and 12 accessions of tropical legumes were planted in an Ultisol at the CIAT-Quilichao experiment station (3° 06' N and 76° 31' W). They were harvested at cutting intervals of 3, 6, 9, 12, and 15 weeks during the rainy season of 1980-1981 to measure their quality. Leaf tissues of the grasses and legumes were analyzed for crude protein (CP), in vitro dry-matter digestibility (IVDMD), calcium (Ca), and phosphorus (P). Legume leaves were also analyzed for sulfur (S) and nitrogen (N) solubility in buffer and in acid-pepsin solutions. The relative acceptability of the grasses and legumes to grazing animals was measured at the end of the trial.

The *Brachiaria* species showed a higher IVDMD than species with erect growth, such as *Panicum maximum and Andropogon gayanus.* Crude protein content in the leaves was high in all the grasses evaluated. However, *B. humidicola* had the lowest CP content among the *Brachiaria* species. Likewise, this species showed the lowest levels of Ca and P in the leaves, these levels being similar to those found in *A. gayanus.* Grasses with erect growth habit, such as *A. gayanus,* were more accepted by the animals than the *Brachiaria* species.

The IVDMD and CP of the legumes varied with age at cutting. The most digestible legumes and the one with the highest CP content were *Z. glabra* and *Z. latifolia,* and the least digestible species were *D. ovalifolium* and *C. gyroides.* In addition, *S. scabra,* within the genus *Stylosanthes,* showed the lowest IVDMD. The relative acceptability of *D. ovalifolium, C. gyroides,* and *C. pubescens* was low, wich contrasted with the high palatability of *Z. glabra* and *Stylosanthes* species, except for *S. scabra.*