

# Summary

In 1989 and 1990 at the ICA-CIAT Carimagua Research Center, the level of rumen ammonia was measured in steers grazing pastures of *Brachiaria dictyoneura* alone and associated with

*Arachis pintoi*, and *B. humidicola* alone and associated with *Desmodium ovalifolium*. A 4 x 4 crossover design with complete blocks was used. Grazing in each period consisted of 4 days of adjustment followed by 3 days of measurement.

Eight esophageal-rumen fistulated steers were used. To determine rumen ammonia, liquid samples were taken at 8 and 11 a.m. and 2 and 4 p.m. Botanical composition and quality of the diet selected were determined at the end of the measurement period, and forage availability and quality were measured at the beginning of each grazing period.

The levels of rumen ammonia of animals in pastures alone and in grass-legume associations varied with the level of crude protein (CP) in the diet selected and with the legume species in the pasture. The correlation between the level of rumen ammonia and CP in the diet was high and positive ( $r = 0.92^{**}$ ) when the pastures of the grass alone (*B. humidicola* and *B. dictyoneura*) and the pasture of *B. dictyoneura* associated with *A. pintoi* were considered.

In the association of *B. humidicola* with *D. ovalifolium*, a legume high in tannins, the levels of protein in the diet selected was high (11.8%), but was not reflected in the levels of rumen ammonia (56.5 mg/lit of  $\text{NH}_3\text{-N}$ ). Thus result contrasts with that observed in the *A. pintoi* association (10.4% CP and 134 mg/lit of  $\text{NH}_3\text{-N}$ ).

We concluded that the level of CP in the grazing animals' diet is a good indicator of the level of fermentable nitrogen in the rumen when pastures that contain grasses alone and legumes without tannins are evaluated. In associations with legumes high in tannins, rumen ammonia should be measured to determine its contribution to the nutrition of the animals.