

Summary

Low pasture protein and quality usually limit animal productivity in the Peruvian Amazon. A study was conducted to evaluate the forage mass, quality, and animal productivity of a *B. dictyoneura* pasture as affected by the presence of the legume *D. ovalifolium* in the system.

The effect of the legume on herbage mass, botanical composition, crude protein, in vitro dry matter digestibility (DIVMS) of both standing and consumed herbage, and liveweight of the system were assessed under a stocking rate of 3 animal units (AU) per hectare. Additionally, the *B. dictyoneura*/*D. ovalifolium* mixture was evaluated under 2 and 4 AU/ha, for the same variables. Thirty-two halfbred (Brown Swiss-Zebu) steers were allocated in different pastures under a randomized complete block design with 7/21-day occupation/rest periods during the first year of the experiment. At the beginning of the second year the occupation/rest period was changed to 21/21.

Introducing *D. ovalifolium* into a *B. dictyoneura* pasture system increased the herbage mass and the protein content from 1429 to 2005 kg/ha and from 4.4% to 8.0%, respectively. No significant increases in DIVMS, neither in the standing nor in the consumed herbage, were detected after *D. ovalifolium*. Liveweights were detected after *D. ovalifolium*. Liveweights were about the same for all treatments and averaged 278 g/animal. However, higher animal productivity (748 kg/ha) were obtained from *B. dictyoneura*/*D. ovalifolium* mixture, due to the higher stocking of the pasture to support. Increasing stocking in the *B. dictyoneura*/*D. ovalifolium* decreased herbage mass. Both low stocking rates and longer occupation

periods produced higher *D. ovalifolium* proportion in the sward.

We conclude that under certain grazing managements (high stocking, alternate grazing, short occupation periods, aggressive grass component) *D. ovalifolium* effectively increases herbage mass, protein availability, and animal productivity of pastures on the Peruvian Amazon.