

# Summary

Various studies were conducted on natural pastures in the regions of Viçosa, Minas Gerais (Brazil), with the characterization and identification of ecological sites as the principal objectives. The validation and adaptation of the Botanal method was utilized for the determination of the botanical composition and the production of dry matter; and the evaluation of methods for the determination of the botanical composition of the diet of animals on pasture and their later utilization under field conditions. With reference to the chemical characteristics of the soil, the concave and convex reliefs are distinct as demonstrated by the pH values, aluminum saturation, CTC, base saturation, and index of Al, P, and K toxicity. These differences are related to the more podizolic nature and the higher fertility of the concave area which favors larger botanical diversity and the presence of species with higher levels of production. The rank dry weight method (botanical composition) and the comparative yield method (dry matter production), when utilized in the Botanal computational procedure, were reliable and practical for the estimation of the referred to parameters under the conditions of the natural pastures of Viçosa. There was no difference

between the results obtained using the Botanal or direct sampling methods or for the other components with minor participation in the pasture. Similar behavior was observed for the coefficients developed locally and those developed in Australia. It was observed that for the three methods tested for the analysis of the botanical composition of the diet (microscopic point and microhistological of the feces and consumed material), the observed means were very similar to the expected means. The molassesgrass, without doubt, was the species with the major participation in the diet of animals and in the pasture, independent of season, maintaining an index of selectivity always superior to 1. The batatais grass, legumes and shrubby herbs were highly selected by animals, particularly in the dry period.