

Nutritive value of natural grassland, improved natural grassland, and cultivated pasture in six locations in highlands of Santa Catarina State

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Evaluation of nutritional value of different pastures and in different regions is essential to forecast management strategies to compose the diet of grazing animals. Thus, it is possible to adjust diets that optimize performance and reduce production costs. This study aimed to evaluate crude protein (CP) and total digestible nutrients (TDN) of natural grassland (NG), improved natural grassland (ING), and winter cultivated pasture (WCP) in six sites representing the Santa Catarina highlands. These data will be used to assist in pasture management recommendations for technical and local producers. In the fall of 2012, fifteen observation units were installed on private properties in areas ranging from 1.5 to 10 ha. The municipalities are São José do Cerrito (SJC), Capão Alto (CA), Lages (L) Paineis (PA), Bom Jardim da Serra (BJS) and São Joaquim (SJ), in order to represent the climate and the soil of the different regions of the Santa Catarina highlands. Observations were carried out on NG and ING in L, PA, and BJS. The municipalities of SJC, CA and SJ have added WCP. The evaluation period was from January 2014 to February 2015. The correction of soil fertility was based on soil analysis of ING and WCP. The species introduced were: rye (*Secale cereale*) oat (*Avena sativa*), annual ryegrass (*Lolium multiflorum* Lam), white clover (*Trifolium repens*), red clover (*Trifolium pratense*), dactyl (*Dactylis glomerata*) meadow soft grass (*Holcus lanatus*) and birdsfoot trefoil (*Lotus corniculatus*). Samples were collected by hand-plucking in four seasons throughout the year. Posteriorly the samples were sent to laboratory for analyze CP and TDN, using AOAC and Van Soest protocols. Average levels of CP and TDN for NP in the spring and summer were 9.0 and 43.7%, respectively. These values attend the nutritional requirements for low to moderate gains of beef cattle. ING is a good option to fill nutritional deficiency NP mainly in fall and winter period in L, CA, PA and SJC, which were observed on average 15.7% CP and 50.1% TDN. In SJ and BJS where edaphoclimatic conditions are more restrictive to pasture growth and animal production, CP and TDN for CN were 5.3 and 26.4% in the fall and winter. In these locations ING presented values of 10.65% CP and 38.9% TDN and therefore can be recommended along with energy supplementation. The most appropriate in this time of year would be WCP which were observed CP content of 20% and 64.7% TDN.

Keywords: cool season species, pasture quality, overseed, crude protein, total digestible nutrients

Acknowledgments: Work supported using the fund to support Santa Catarina research (Fapesc)