EVALUATION OF THE PROPORTION OF BOTANICAL AND MORPHOLOGICAL COMPONENTS IN FORAGE OF EXCLUSIVE AND INTERCROPPED GRAZING SYSTEMS

AVALIAÇÃO DA PROPORÇÃO DOS COMPONENTES BOTÂNICOS E MORFOLÓGICOS EM FORRAGEIRAS DE SISTEMAS DE PASTEJO EXCLUSIVO E CONSORCIADO

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Abstract

Pasture management that favors ecosystem renewal results from the best botanical proportion of forage. The objective of this work was to evaluate the forage botanical component proportions in macrotiloma (legume) and marandu grass intercropped pasture in comparison with exclusive marandu grass pasture, with or without protein supplementation, using cattle in continuous stocking. The study was carried out at the instituto de zootecnia (nova odessa, sp). Twelve jersey cows (372.83±44.62 kg) were used. Data collection was carried out during periods of 45 in each season, between spring 2019 and winter 2021. The experimental design used was completely randomized blocks, with three treatments and two replications. The experimental treatments were: grass (g): exclusive pasture of urochloa brizantha cv. Marandu; grass + protein supplementation (gp): exclusive pasture of urochloa brizantha cv. Marandu with protein supplementation; and grass + legume (gl): pasture intercropped with urochloa brizantha cv. Marandu and macrotyloma axillare (e. Mey. Verd accession no 279). Forage mass was measured on the 1st, 23rd and 45th days of each experimental period. Forage samples were composed of the representative mass collected at ground level using a gasoline back-mounted brushcutter with a hedge trimmer, at three points, to determined average forage canopy height. The botanical composition was calculated as a percentage of pasture forage mass using the dry weight of the botanical components. Statistical analyses were performed using the sas 9.4 mixed procedure. The data were evaluated by the lsd test and a significant effect was considered when $p \leq 0.05$, where the seasons were considered repeated measures in time. The treatments showed statistical difference for dead material proportion (g = 46.37% a, gp = 46.47 % b and gl = 42.11 %b; $p < 0.04$). Legume proportion was higher in summer (spring = 9.77%b, summer = 30.34%a, autumn = 15.26%b and winter = 5.13%b; $p < 0.004$) and dead material proportion was higher in winter (spring = 48.54%b, summer = 14.23%c, autumn = 38.61%b and winter = 78.55%b; $p<0.0001$). The proportion of macrotyloma axillare leaves in the forage canopy in this study was 16.60% in summer, 4.87% in spring, 4.48% in autumn and 2.51% in winter, and branches/stalks represented 14.74%a in summer, 4.90 %b in spring, 10.77%b in autumn, and 2.61%b in winter. It can be concluded that botanical maintenance with macrotyloma axillare has potential to be used intercropped with marandu grass, contributing to the system sustainability.

Keywords

Consortium persistence, macrotyloma axillare, urochloa brizantha.

Acknowledgments:

To fundação de amparo à pesquisa do estado de São Paulo (FAPESP/ processo n° 2017/20084-5) for funding these research project.