

BROMATOLOGICAL COMPOSITION OF SPONTANEOUS PLANTS, GRASS AND LEGUME FORAGES

COMPOSIÇÃO BROMATOLÓGICA DE PLANTAS ESPONTÂNEAS, GRAMINEA E LEGUMINOSA FORRAGEIRAS

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Spontaneous plants occupy niches in pasture ecosystems and have potential as forage, an aspect that must be evaluated under the concepts of sustainability. The objective of this paper is to describe the bromatological composition of forage and spontaneous plants of pastures grown in a greenhouse at the Instituto de Zootecnia in Nova Odessa, São Paulo, Brazil. Five plant species were evaluated: signalgrass (*Urochloa decumbens* cv. Basilisk), macrotiloma (*Macrotyloma axillare* NO 279) and three spontaneous plants: hairy beggarticks (*Bidens pilosa*), arrowleaf sida (*Sida rhombifolia*) and slender amaranth (*Amaranthus viridis*), in two cuttings (C1 and C2) at two different moments in a randomized blocks design with four repetitions, totalling 40 experimental units (boxes filled with 35 kg of soil each). The concentrations of crude protein (CP), mineral matter (MM) and lignin (L) in the leaves were evaluated using PROC GLM SAS® and the Student test ($P < 0.05$). For crude protein (CP), differences between species ($P < 0.0001$) and cuttings ($P < 0.0001$) were observed and the highest results were found for slender amaranth, hairy beggarticks and arrowleaf sida, in this order, with no differences from the other species, followed by macrotiloma and signalgrass, which differed from all others (28.29, 28.16, 24.42, 21.58, and 13.93%, respectively). Concentrations of CP decreased between cuttings 1 and 2, from 28.34 to 18.30%, respectively, due to the fact that leaves in C2 had senescent tissues. Mineral matter (MM) presented significant differences between species ($P < 0.0001$) and cuttings ($P = 0.0036$), and the highest results were observed for the spontaneous plants: slender amaranth (13.54%), hairy beggarticks (11.28%) and arrowleaf sida (8.65%), which differed from each other, and the lowest values for macrotiloma (6.39%) and signalgrass (6.84%), without significant differences, with mean standard error of 0.446. Relative to the cuttings, the highest concentration of mineral matter occurred at C2 ($9.99\% \pm 3.200$) compared to C1 ($8.69\% \pm 3.200$). The concentration of lignin differed among the species ($P < 0.0001$), and was highest for hairy beggarticks (14.10%), differing from the other plants (mean $2.90\% \pm 2.534$). All spontaneous plants therefore have potential as forage for herbivores, since the results showed their MM and CP are appropriate to herbivore diets and superior to legume and grass, so it may not be necessary suppress these species in pasture ecosystems.

Keywords: forage, sustainability weeds.

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