



Pasture height at the beginning of deferment as a determinant of signalgrass structure and apparent selectivity by cattle

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The capacity of an animal to counterbalance the negative effects of the inadequate structure of a deferred pasture through selectivity is limited. So, current experiment identified the height of signalgrass (*Brachiaria decumbens* Stapf cv. Basilisk) at the beginning of deferment that provided an appropriate pasture structure and potential selectivity by cattle on deferred pastures. Four pasture heights at the beginning of deferment (10, 20, 30 and 40 cm) and two forage samples (available on pasture and simulated grazing) were studied. The experimental design was set in completely randomized blocks, with two replications, in a split-plot arrangement. Plots consisted of average pasture heights and sub-plots corresponded to forage samples. Between January and March 2010, the paddocks were managed under continuous grazing by cattle and at a variable stocking rate to keep pasture heights at approximately 25 cm. From the beginning of March 2010, paddocks were managed so that the pastures reached the average heights established for the beginning of deferment. Pastures remained deferred from March 19 to June 12, 2010, when the grazing period started. In this period, pastures were managed under continuous grazing and with an initial fixed stocking rate of 3.0 animal unit per hectare (AU ha⁻¹), keeping a minimum of two animals per experimental unit. On the first day of the grazing period, forage mass and simulated grazing samples were collected from areas representing the average pasture height. Each sample was separated into the morphological components. The apparent selectivity of cattle was measured by dividing each morphological component in the simulated-grazing sample (%) by its respective morphological component in the available forage sample (%). Higher percentage of live leaf blades (64.3%) and lower percentage of live stems (22.4%) and senescent forage (13.4%) were recorded in the forage sample from simulated grazing (22.3% of live leaf blade, 39.0% of live stem and 38.7% of senescent forage). The increase in pasture height increased the percentage of senescent forage and reduced the percentage of live leaf blades in forage samples. Pasture height at the beginning of deferment did not affect the apparent selectivity index by cattle for the percentage of live leaf blade (2.9). The apparent selectivity index varied quadratically for the percentage of live stems ($\hat{Y} = -0,5586 + 0.106 * H - 0.0019 * H^2$, $P < 0.01$, $R^2 = 0.75$) and increased linearly ($\hat{Y} = 0.1303 + 0.0088 * H$, $P < 0.01$, $R^2 = 0.65$) for the percentage of senescent forage with pasture height. A 10-to-20 cm reduction in pasture height at the beginning of deferment improved the structure of deferred signal grass and optimized selectivity by cattle.

Keywords: *Brachiaria decumbens*, morphological composition, sward height

Acknowledgments: This work was conducted with assistance of National Council for Scientific and Technological Development (CNPq) and Foundation for Research of Minas Geraes State (FAPEMIG), both from Brazil.