



Ryegrass behavior under different plant seasons throughout the period of pasture use

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The ryegrass (*Lolium multiflorum* Lam.) is a plant from temperate climate that presents annual cycle. It is used for grazing in the South region in Brazil because of its ability of natural seeding, nutritional value, and forage production potential. Because of that, it is important to have information related to the behavior of this forage species under different sowing seasons as a way of searching for alternatives that enables a better use of this plant on the productive cycle, as well as reduce the fall forage emptiness. Therefore, this study aimed at assessing the behavior of the ryegrass under three sowing seasons (03/28; 04/19 and 05/13 in 2013) throughout its productive cycle. The sowing was done by throwing, with a density of 21 kg of viable pure seeds and 200 kg of ADP per hectare. Two nitrogen fertilization (100 kg of urea per hectare in each application) considering the seasonal differences of the cropping time. The experiment was carried out from March 28th to October 3rd in 2013 in a CPPSUL area of 6.0 hectare. Three evaluators quantified the soil cover by ryegrass (percentage), the average plant height (cm), and the number of live leaves per tiller, in 20 squares of 0.25 x 0.25 m², allocated in a random way in each experimental area in three moments of evaluation throughout the cycle (1. The end of the sowing and the germinated plants; 2. The beginning of the use of the areas for grazing; 3. The end of the productive cycle and the use of the areas for grazing). The data was analyzed using the SAS statistical package and the means compared by Tukey's test at 5 %. There was interaction between the sowing season and the period of assessment. In the first assessment, it was not observed a difference in the cover of the soil among the three sowing dates. During the use cycle, it was observed a larger cover of soil for the first seeding date in relations to the seasons 2 and 3. It was observed a larger cover of the soil in the second and third assessments, independent of the seeding season, probably in function of the tillering. In the beginning of the use of the areas, a higher average height was observed for the sowing seasons 1 and 2, which was also observed for the end of the use cycle. In the intermediate assessment, the highest height was registered in the plants of the first sowing. The number of leaves by tiller was significantly smaller in the first assessment and in the third seeding season which was expected due to the shorter time between the sowing and the beginning of the assessment. In addition to that, plants were smaller with less leaves and smaller tillering which also justifies the smaller cover of the soil. Since it was observed that the differences in the cover of the soil, in the plant heights, and in the number of leaves disappeared throughout the use cycle of the pastures, it can be concluded that it is possible in the South region of Rio Grande do Sul to anticipate the ryegrass sowing, which increases the utilization period and may reduce the fall forage emptiness. However, it must be considered the climatic conditions of each year, which may influence in the forage establishment and production in this decision making.

Keywords: Fall forage emptiness, *Lolium multiflorum*, Temperate plant