INTRODUCTION

Starting in 1970, Argentine agriculture underwent an expansion of its productive frontier, favored by the expansion of the area destined for planting export crops. The advancement of this model has caused a shift of livestock to marginal areas with less productive skills due to both environmental and edaphic limitations. *Panicum coloratum* is a species of high summer perennial grass, tolerates puddling, cold and slightly saline soils. It has a good production and presents high quality forage in summer compared to other C₄ grasses. However, its determined flowering characteristics and uneven maturation within the panicle, added to a high seed dehiscence after maturation, establish serious difficulties in harvesting quality seeds. The objective of this work was to study the dynamics of seed dehiscence and forage production of two cultivars of *Panicum coloratum var. makarikariense* (cv. Kapivera and cv. Bambatsi).

MATERIALS AND METHODS

During November 2015, were planted two cultivars of *Panicum coloratum var. makarikariense* (cv. Kapivera and cv. Bambatsi) in plastic cups on a substrate composed of earth and vermiculite. In March 2016, the final transplant of 90 plants from each cultivar was carried out to an experimental lot located in the town of Zavalla, Santa Fe, Argentina (33 ° 01' S; 60 ° 53' W).

**Seed dehiscence:** Seed drop was evaluated weekly for 70 days between March-May 2017 and 2019 by placing traps on 15 random inflorescences of each cultivar when 80% of them had 3/4 of anthesis (Fig. 1). The collections were carried out until approximately 80% of the inflorescences had lost all of their seeds. Using a χ² distribution, the results obtained were analyzed.

**Forage production:** The panicles were cut and following measurements were made: **Panicle height:** length (cm) from the base of the panicle to the apex. **Panicle length:** measured (cm) from the apex to the knot of the flag leaf. **Rachis length:** distance (cm) from the upper end to the first branch of the panicle (Fig. 2). The panicles were then heated to 60°C for 72 hours and weighed to obtain the dry matter. A principal component analysis was carried out for each year under study in order to simultaneously evaluate all the variables and explore correlations between them.

RESULTS

**Seed dehiscence:** The results indicate a similar seed drop for both genotypes until week 5, after which differences in the dehiscence process begin to be seen in both cultivars. There is experimental evidence indicating that the dynamics of seed drop is different between cultivars, both for the accumulated number of seeds dropped during the trial and for the number of seeds dropped per week. The Bambatsi cultivar evidences a greater total dehiscence of seeds in the 2 years under study.

**Forage production:** The analysis of variance showed that in the two years there is experimental evidence indicating the existence of significant differences between cultivars for the variables “panicle l” and “rachis l”. In the two PCAs mentioned, a defined grouping of the plants according to the cultivar to which they correspond is not displayed.

CONCLUSIONS

A different dynamics of seed drop could be observed for each cultivar in both years under study, coinciding the peak of fall for the set of data during the first days of May (although this means different weeks) without evidencing influence of external climatic factors. In the evaluation of the characters related to biomass, the expected correlations between a certain groups of variables can be visualized. Furthermore, according to the length of the vector, they seem to have a similar importance when discriminating crops.