XIII Congresso de ECOLOGIA
III International Symposium of Ecology and Evolution
Múltiplas ecologias: evolução e diversidade
08 a 12 de outubro de 2017 • UFV - VIÇOSA | MG

CHANGES IN THE STRUCTURE OF NATURAL REGENERATION UNDER RAIN EXCLUSION TREATMENT IN THREE CERRADO PHYTOPHYSIOGNOMIES

Nayara Mesquita Mota[1*], Fernando da Costa Brito Lacerda[1], Alex Josélio Pires Coelho[1], Larissa Areal C. Muller[1], Luca Rodrigues de Aquino[1]; Alexandra Rodríguez[2], Jorge Durán[2], João Augusto Alves Meira-Neto[1]

1. Laboratory of Ecology and Evolution of Plants, Universidade Federal de Viçosa, Viçosa, Minas Gerais, 36570-000, Brazil; 2. Centro de Ecologia Funcional, Universidade de Coimbra, Coimbra, 3000-456, Portugal. *Correspondence to nay.mmota@ymail.com

Tema/Meio de apresentação: Ecologia de comunidades/Pôster

In most Cerrado regions, climate models predict a 20 to 70% decrease in current precipitation values. Such decrease is likely to result in changes in the structure of plant communities. The goal of this work was to test the effect of rainfall reduction on the Cerrado natural regeneration. To do so, we placed five 7x7m paired (one rainfall exclusion and one control) plots in each of the three dominant Cerrado phytophysiognomies present in the Paraopeba National Forest (i.e. dystrophic Cerradão, Dense Cerrado *stricto sensu* and Cerrado *stricto sensu*). In the center of each plot, we established a 2x2 m subplot, which was used to carry out all plant analyses. The experiment was set up in September 2015, and, in two periods (May/2016 and February/2017), we estimated the number of individuals, basal area (total sum and average) and the number of deaths between evaluations. We used chi-square and F-test to assess the statistical significance of our results. The Cerrado phytophysiognomies differed in number of individuals and in the basal area in both evaluations ($p<0.05$). Specifically, Dense Cerrado *stricto sensu* had the largest number of individuals, likely because its intermediate condition of light and nutrient allows the colonization of more individuals. However, Cerrado *stricto sensu* had the largest basal area, which can be explained by the presence of species with high ability to resprout, as *Miconia albicans* (Sw.) Triana. On the other hand, our rain exclusion did not change any of the analyzed variables ($p> 0.05$). This apparent lack of effect may be due to a low sensitivity of the system (or of the analyzed variables) to changes in soil moisture, or to the fact that the time elapsed since the start of the exclusion was not sufficient to produce significant effects. Thus, more sampling time is needed to elucidate these questions.

The authors thank CNPq, CAPES and FAPEMIG for grants, financial support and scholarships.