

Fire on native pastures - effects on soil and vegetation.

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The effects of fire and alternative managements on soil and vegetation of native pastures were revised from several research works, jointing personal observations developed during almost 40 years in range areas of Rio Grande do Sul, Brazil. Soil parameters such as potential acidity; aluminum concentration; basis saturation; and others were considered with vegetation parameters such as production and quality of green forage dry matter during the year; botanical composition; volumetric amount of water in soil; nutrients cycling through the forage and dead material; etc. Some results: Burning results in higher contents and saturation of aluminum, and higher potential soil acidity; Mowing reduces potential soil acidity and increases soil basis saturation; Lime, fertilization and mowing favor native species of higher forage value such as *Paspalum notatum*, *Paspalum plicatulum* and *Desmodium incanum*; Burning favor the andropogonea species in detrimental of prostrate grasses and legumes, and also ciperaceae, reducing the floristic diversity; Burning reduces the forage green dry matter and dead material, and the volumetric amount of water in soil, resulting in considerable proportion of uncovered soil surface; Higher nutrient cycling through forage and dead material in areas not burned; The regrowth of native species during the spring period is delayed in areas burned every two years for more than 100 years as compared with other alternative managements. *Eryngium horridum*, undesirable species, increases its participation in burned areas as compared with other alternative managements. The general conclusion, based on the results of the revised works, is that the burning of natural pastures, in the high altitude region of southern Brazil, must be avoided as a routine practice, because it is detrimental to the environment, reduces forage yield and quality, and it is not a sustainable practice.