

Phytosociology of fertilized and oversown natural and naturalized pastures in Santa Catarina highlands

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Natural pastures has a high variability in different landscape scales. In the Santa Catarina highlands soil factors as shallow soils, rock outcrop, high land slopes, and low soil fertility are someone of vegetation conditioning factors in each location. The improvement of natural pastures with the correction of soil fertility and oversowing of cool-season species is a commonly alternative used by local producers. The aim was to study the plant community in natural and naturalized pastures with human intervention. It was evaluated phytosociology parameters in ranch properties in the municipalities of Lages, São Joaquim, Paineel, Capão Alto and Bom Jardim da Serra with improved natural pastures and in São José do Cerrito with improved naturalized pastures. The improvement is with correction of soil fertility based on soil analysis. The species introduced were: rye (*Secale cereale*) oat (*Avena sativa*), annual ryegrass (*Lolium multiflorum* Lam), white clover (*Trifolium repens*), red clover (*Trifolium pratense*), dactyl (*Dactylis glomerata*) meadow soft grass (*Holcus lanatus*) and birdsfoot trefoil (*Lotus corniculatus*). Five sample units (SU) of 1m² were established in each local in January 2014. It was calculated the values of species presence/absence, absolute percentage of soil coverage and relative coverage. The Shannon Index was calculated using software "R" (vegan package). The survey identified 147 species, the greater species richness were observed in São Joaquim with 27 species / SU, Bom Jardim da Serra with 24 species / SU, Capão Alto presented 23 species / SU, Lages and Paineel presented 21 species / SU. The improved naturalized pasture in São José do Cerrito presented the lowest value with 12 species / SU. Shannon diversity index in São Joaquim was 2,745, Bom Jardim da Serra 2,052, Capão Alto 2,402, Lages 2,630 and Paineel 2,470. In São José do Cerrito Shannon index was 2,051. The introduced and native species represent 12.18% and 13.66% of relative soil coverage, respectively. The ten species with the greatest contribution was: *Trifolium repens* L., *Trifolium pratense* L., *Lotus corniculatus* L., *Holcus lanatus* L., and the native species was *Axonopus compressus* (Sw.) P. Beauv, *Paspalum plicatulum* Michx., *Paspalum notatum* Flügge, *Hypoxis decumbens* L., *Cyperus hermaphroditus* (Jacq.) Standl., and *P. dilatatum* Poir. Improvements of natural pastures presents higher plant diversity than improvements of naturalized pastures.

Key Words: cattle, floristic diversity, diversity index

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