



Abstract

Trees nuclei within pastures for sustainable livestock production

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Abstract: Silvopastoral systems (SPS) are known for their ability to offer ecosystem services that favor the producer, animal and plant life, the presence of trees in pastures positively affects biomass production and even has an influence on the floristic composition of the meadow. In order to evaluate the effect of SPS on dry matter production and floristic composition, 18 paddocks were selected to implement 3 experimental treatments with 6 blocks, each paddock is an experimental unit, the treatments being as follows: Silvopastoral Treatment 0 (T₀), 3 paddocks with 0% Tree Nuclei (TN); Silvopastoral treatment 5 (T₁), 3 paddocks with 5% TN; Silvopastoral Treatment 10 (T₂), 3 paddocks with 10% TN. Statistical analysis was descriptive and inferential with R Studio. The percentage of Dry Matter (DM) for T₀ was 40.9; for T₁ = 37.7 and T₂ = 35.1. The percentage of Legumes for T₀ was 3.18; for T₁ = 37.7 and T₂ = 5.63. DM Production per hectare for T₀ was 1484kg; for T₁₊₂ = 1712kg. For these 3 variables it was found that P was less than 0.05, that is, there is a statistical difference between the treatments. In the case of the percentage of participation of grasses and other plant species in the meadow, the value of P remained above 0.05, therefore these variables do not have a significant difference between the treatments. When the two silvopastoral treatments are compared with the control treatment, it is found that the DM production per hectare is higher in the silvopastoral plants despite the lower percentage of DM in their forages. SSPs favor DM production and affect the floristic composition by increasing the percentage of legumes in the pasture.

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