

Pearl millet as forage and silage in livestock

Simone Tateishi¹, Werner Peter Marcon², Maria José Calegari³, Beatriz Pereira Espadin⁴, Emmanuel Zullo Godinho⁵, Aluisia Budin Fodra⁶, Caetano Dartiere Zulian Fermino⁷, Inácio Zapparoli Bardini⁸, Matheus Augusto Santos Antoniazzi⁹.

ABSTRACT

This abstract was an analysis of articles about the use of pearl millet in animal nutrition, its fixed and variable production costs, and development as a forage crop in the Midwest of São Paulo. In recent studies, *Pennisetum glaucum pearl shade* has been an outstanding alternative as a forage for the improvement of degraded soils with reduced organic matter content. Its ease of no-tillage has propagated its use by cattle ranchers as a potential substitute for corn in livestock as forage and in animal feed. The pearl millet crop is positive due to its low fixed cost and is financially more viable because it has a short cycle, greater adaptability, good germination in the high temperatures of the Midwest of São Paulo, has low water requirements and greater resistance in the dry season, making it an excellent option for planting in the off-season (autumn and winter). With roots reaching 3 meters, it easily extracts nutrients from the soil, increasing the accumulation of calcium, potassium and nitrogen in the upper layer of the soil, reducing the application of agricultural inputs, which reduces the final cost of production. As a silage, it does not have antinutritional effects, such as tannin, despite its total crude protein and digestibility. Nutrients extracted from the soil remain in the straw as it decomposes, returning to the soil; high biomass in the foliage; high nutritional content of the seeds; high seed production; adaptability to different levels of soil fertility; resistance to diseases and pests; suppression of weeds by physical effects; longer-lasting straws. Due to the above, the use of pearl millet as silage has presented advantages due to the multifunctionalities of its use in livestock. Although its metabolizable energy content is equivalent to that of corn and sorghum, its low water and agricultural input requirements reduce the total cost of production, requiring only planning in cultivation and supply to animals.

Keywords: Millet, Animal nutrition, Livestock.

¹ Gennari and Peartree College – São Paulo

² Gennari and Peartree College – São Paulo

³ Gennari and Peartree College – São Paulo

⁴ Gennari and Peartree College – São Paulo

⁵ Sacred Heart University Center – São Paulo

⁶ Sacred Heart University Center – São Paulo

⁷ Sacred Heart University Center – São Paulo

⁸ Sacred Heart University Center – São Paulo

⁹ Sacred Heart University Center – São Paulo