Summary

The response of *Brachiaria brizantha*, *Stylosanthes guianensis*, and *B. brizantha* + *S. guianensis* to mycorrhizal inoculation and different P application rates, when submitted to drought stress, were evaluated under greenhouse conditions in Lavras (Minas Gerais, Brazil). A dystrophic dark red Latosol, obtained from the

Campos das Vertentes region of Minas Gerais, was used. The experiment design was a completely randomized statistical design, arranged in a 3 x 5 factorial scheme with four repetitions and three soil treatments (natural soil, soil without mycorrhizas, and soil inoculated with *Glomus etunicatum*) and five P application rates (0, 50, 100, 200, and 300 mg/kg soil). Three cuttings of the aerial parts of plants were performed; the third cutting was done after plants had been submitted to a period of water stress. The DM production of shoots and roots was evaluated after the third cutting. Results showed that increasing P application rates significantly increased DM production and promoted higher plant tolerance to water stress. These results were evidenced by the presence of mycorrhizal fungi, to a greater or lesser extent, depending on the forage species studied, mainly in the case of intermediate P application rates.