

Summary

A greenhouse experiment was carried out by the Soils Department of the University of Lavras (UFLA) in Minas Gerais, Brazil, to evaluate the effect of the interaction of phosphorus (P), arbuscular mycorrhizae, and nitrogen (N) on the forage production and quality of *Arachis pintoii* cv. Amarillo. A clayey dark red Latosol was used in a completely randomized experiment design, arranged in a 5 x 2 x 2 factorial, with five application rates of P (25, 50, 75, and 200 mg/dm³ of soil), two soil inoculation treatments (with and without inoculation with *Glomus etunicatum*), and two N treatments (with and

without N). Complete fertilization was applied at planting, in addition to trace elements and 7 ml inoculum/pot. Three cuttings were made overall: the first at 60 days after planting and the other two at 45-day intervals. Applications of P ($P < 0.05$) and N ($P < 0.01$) increased both DM production (5.3 g/pot without N compared with 7.9 g/pot with N) and CP content (400 mg/pot without N compared with 679 mg/pot with N) in legume DM. The presence of mycorrhizae did not affect DM production nor CP content in plant canopy, indicating a low dependency on the inoculum (17.62%).