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Effect of phosphorous levels during establishment of *Paspalum regnellii* cv. BRS Guará

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Research on plant breeding has contributed to increase animal production in Brazil, but most of breeding programs focus on exotic species. *Paspalum* genus has more than 330 species, of which about 220 are native from Brazil. Among the accessions of *Paspalum* maintained at the germplasm bank of Embrapa, the *Paspalum regnellii* BRS Guará has proved a very promising crop, in terms of fodder production. The aim of the present experiment was to determine the critical dose of phosphorus for the establishment of *Paspalum regnellii* BRS Guará pastures. A complete randomized design with three replicates and four treatments (0, 36, 72 and 108 kg.ha^{-1} P_2O_5) was used. Seeds were treated with fipronil and sowed on twelve plots of 2 x 3 m^2. Phosphorous was applied as simple superphosphate in the seed line. Forage dry biomass, weeds dry biomass, plants height, and tiller population density of BRS Guará were evaluated 77 days after sowing. Analysis of variance and polynomial regression analysis were performed using the statistical package SAS. Effect of phosphorous on weed dry biomass, plants height and tiller population density was not significant. Mean weed dry biomass, plants height and tillers population density were 962,06 kg/ha, 40,50 cm and 280,50 tillers/m^2. A linear model described the relationship between doses of phosphorous and forage dry biomass ($y = 10.805\ x + 789,19$; $R^2 = 0,6471$, where y is forage dry biomass and x is dose of phosphorous in kg/ha of P_2O_5). It was not possible to estimate critical level of phosphorous for establishment of BRS Guará; further experiments should test doses of phosphorous higher than 108 kg/ha P_2O_5 to determine critical level of phosphorous.

Keywords: *Paspalum*, plant nutrition, tropical grass.