

### Different doses of phosphorous and lime on *Paspalum regnellii* crop

Saulo de Tarso Cossalter<sup>1, 4</sup>, Karen Carolina da Silva<sup>2, 4</sup>, Suzana Tamiris Bonfadini<sup>3,4, 5</sup>, Cristiana de Gaspari Pezzopane<sup>4</sup>, Mariana Vieira Azenha<sup>4</sup>, Tatiane Beloni<sup>4</sup>, and Patrícia Menezes Santos<sup>\*4</sup>

<sup>1</sup>Centro Universitário Moura Lacerda, Ribeirão Preto, SP, <sup>2</sup>Universidade Federal de São Carlos, São Carlos, SP, <sup>3</sup>UEMS, Aquidauana, MS, <sup>4</sup>Embrapa Pecuária Sudeste, São Carlos, SP, <sup>5</sup>Bolsista PIBIC/CNPq

Applied researches for forage crops have constantly added new technologies and practices on forage production. This study aimed to analyze different doses of phosphorus and lime on accesses of *Paspalum regnellii* (genotypes BGP215 and BGP248). The study was carried out in a greenhouse in São Carlos, São Paulo state, Brazil. A partial factorial design 5<sup>2</sup> randomized within three replicate blocks was used. Thirteen treatments were tested corresponding to combinations of doses of P (0, 100, 200, 300 and 400 mg.dm<sup>-3</sup>), and doses of lime (0, 409, 723, 1037 and 1351 mg.dm<sup>-3</sup> of lime, correspondent to the lime requirement to achieve 27, 40, 50, 60 and 70% of base saturation). The data were subjected to analysis of variance by R Software version 2.15.0 and relationship between variables was explored by polynomial regression analysis. A significant change (P < 0.05) was verified in dry biomass and leaf area values according to phosphorus doses applied to both genotypes. The interaction between phosphorus and lime applied to the treatments was not significant (P > 0.05) and the lime application did not change the dry biomass and leaf area values in any of the analyzed genotypes (P>0,05). A quadratic model described the relationship between doses of phosphorus and dependent variables (biomass and leaf area). Phosphorous doses for maximum leaf area were 265 mg.dm<sup>-3</sup> (BGP 215, with 2224,28 cm<sup>2</sup>) and 289 mg.dm<sup>-3</sup> (BGP 248, with 2794,40 cm<sup>2</sup>). For maximum plants biomass phosphorous doses were 271 mg.dm<sup>-3</sup> (BGP 215, with 11,43 g/vase) and 258 mg.dm<sup>-3</sup> (BGP 248, with 15,15 g/vase). Critical level of phosphorus was 150 mg.dm<sup>-3</sup> and 113 mg.dm<sup>-3</sup> for BGP 215 and BGP 248, respectively.

**Key words:** genotypes, plant nutrition, leaf area, dry biomass