



Selection of common bean (*Phaseolus vulgaris* L.) genotypes using a genotype plus genotype x environment interaction biplot

A.M. Corrêa¹, P.E. Teodoro², M.C. Gonçalves³, A. Santos⁴ and F.E. Torres¹

¹Departamento de Fitotecnia, Universidade Estadual do Mato Grosso do Sul, Aquidauana, MS, Brasil

²Departamento de Biologia Geral, Universidade Federal de Viçosa, Minas Gerais, Viçosa, MG, Brasil

³Departamento de Estatística, Universidade Federal da Grande Dourados, Dourados, MS, Brasil

⁴Departamento de Melhoramento Genético, Universidade Estadual do Norte Fluminense Darcy Ribeiro, Campo dos Goytacazes, RJ, Brasil

Corresponding author: P.E. Teodoro

E-mail: eduteodoro@hotmail.com

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ABSTRACT. Recently, the genotype plus genotype x environment interaction (GGE) biplot methodology has been used to investigate genotype x environment interactions in several crop species, but has not been applied to the common bean (*Phaseolus vulgaris* L.) crop in Brazil. The aim of this study was to identify common bean genotypes that exhibit high grain yield and stability in the State of Mato Grosso do Sul, Brazil. We conducted 12 trials from 2000 to 2006 in the municipalities of Aquidauana and Dourados, and evaluated 13

genotypes in a randomized block design with three replications. Grain yield data were subjected to individual and joint analyses of variance. After analyzing the GE interaction, the adaptability and phenotypic stability of the common bean genotypes were analyzed using GGE biplot methodology. The genotypes EMGOPA-201, Xamego, and Aporé are recommended for growing in Mato Grosso do Sul, because they exhibited high grain yield and phenotypic stability.

Key words: *Phaseolus vulgaris* L.; Multivariate analysis; Genotype x environment interaction