

**ENZYME ACTIVITIES IN CERRADO SOILS OF BRAZIL** V.C. Baligar<sup>1\*</sup>, R.J. Wright<sup>2</sup>, N.K. Fageria<sup>3</sup>, and G.V.E. Pitta<sup>4</sup>. <sup>1</sup>USDA-ARS, Beckley, WV USA; <sup>2</sup>USDA-ARS, Beltsville, MD USA; <sup>3</sup>CNPAF-EMBRAPA, Goiana GO, Brazil; and <sup>4</sup>CNPMS-EMBRAPA, Sete Lagoas MG, Brazil.

Enzymes play an important role in cycling of organically bound nutrients in soils. The pyrophosphatase (PPi), acid phosphatase (AP), arylsulfatase (AS), urease (UR), and dehydrogenase (DH) activities were measured in two dark red latosols and four red-yellow latosols from Cerrado regions of Minas Gerais and Goias of Brazil. Among the six soils, the dark red latosol from Sete Lagoas, MG, had the highest activities for AP, AS, and UR enzymes. The lowest activities for these enzymes were observed in a dark red latosol from Uberaba, MG, and this soil also recorded the lowest DH activity. The red-yellow latosol from Sete Lagoas, MG, had the highest PPi and DH activities, whereas a red-yellow latosol from Felixlandia, MG, gave the lowest PPi activity. Activities of all enzymes were negatively correlated to sand and silt content and positively correlated to clay content. Overall, enzyme activities were positively correlated with pH, C, Bray-P, and exchangeable K, Ca, and Mg. Soil C appears to have the greatest effect on the level of enzyme activities in acid soils.