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A nutrient solution-based approach for inducing nutrient deficiency in seedlings of *Brachiaria ruziziensis*

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Plant symptoms of essential element deficiencies are expressed in many ways and both the onset and intensity of those reactions may vary according to the species or genotype. Recently, there has been growing interest of breeders to improve forage tolerance to soils with low fertility. In this regard, the possibility of using the symptoms of nutritional deficiency as selecting parameters becomes important. Therefore, the purpose of this study was to detect and characterize the visual symptoms of induced mineral deficiencies in *Brachiaria ruziziensis* grown in nutrient solution. In vitro micropropagated seedlings were exposed to aerated half-strength Hoagland's solution, with treatments consisting of a complete nutrition (control) or the absence of one the following essential elements: N, P, K, Ca, Mg, Fe, B, Mn, and Zn. Symptoms were monitored for a 30-day period, and then the seedlings were harvested for biomass evaluations. Although no significant effect of nutrient deprivation was detected in the studied biomass components, distinguished and reproducible deficiency symptoms were detected regarding the absence of Ca, Fe, Mg, N, P, Zn and B. It is concluded that the nutrient solution-based technique for inducing nutrient deficiency is applicable for aiding the selection of *Brachiaria* materials with tolerance to low fertility in the growth medium. Further improvement is expected with the study of greater numbers of genotypes and longer runs.

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