707-6 Establishment of an *in vitro* Micropropagation Protocol for *Brachiaria ruziziensis*.

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George R. Brown Convention Center, 372C

Leonidas Passos[1], *Maria Coletta Vidigal*[2], *Fábio S. Fernandes*[2], *Gislayne A. R. Kelmer*[2], *Fausto de Souza Sobrinho*[2] *and Maiby Cabral Mesquita*[2], *(1)Embrapa, Dairy Cattle, Juiz de Fora, Brazil*
(2)Embrapa Dairy Cattle, Juiz de Fora, Brazil

Abstract:

Interest in the utilization of *Brachiaria ruziziensis* in no tillage crop-pasture production systems is mounting in tropical regions, because of its relatively high rusticity and foraging value. Further progress is expected towards tolerance to aluminum-toxicity and other abiotic stress conditions from ongoing breeding programs, which might become more efficient if a faster propagation procedure is provided. The purpose of this study was to contribute to such a development, by verifying the *in vitro* performance of two contrasting genotypes (FS03425 and FS04716) of *Brachiaria ruziziensis* and establishing a routine protocol for their *in vitro* micropropagation. Growing 10 mm-long culm segments were excised from field-grown plants, disinfected by standard methods using ethanol/sodium hypochloride and cultured on basal 0.7% agar with MS medium, supplemented with WPM vitamins and 3% sucrose. Growth regulator (GR) and Fe requirements were examined by varying the concentrations of BAP and IBA (respectively, 0.0; 1.0; or 2.5 µM), and by doubling or not the MS-recommended Fe-EDTA level. Essays were carried out as a completely randomized design in a 2 (genotypes) X 2 (BAP or IBA) X 3 (GR concentration) X 2 (Fe-EDTA level) factorial, with four replications. Following a 30-day-growing period, the preliminary best results for both studied genotypes were obtained in the treatments containing 1µM BAP, 2.5 µM IBA and doubled Fe-EDTA supply. Subsequent studies are still needed to optimize plant *ex vitro* acclimation and also to enhance root growth so as to improve prospective *in vitro* examinations of tolerance to toxic aluminum.

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