

***In vitro* plant propagation via somatic embryogenesis in sugarcane cv. RB935744**

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Brazil is one of the most important sugarcane producers worldwide. The importance of sugarcane as an energy crop has increased in recent years due to ethanol, which is considered as one of the most viable alternative to fossil fuels. The time required to release new sugarcane varieties corresponds to more than 12 years. Genetic engineering is a powerful tool to speed up sugarcane breeding programs. However, the development of an efficient method for somatic embryogenesis is required to generate genetically modified sugarcane. Thus, the objective of this study was to evaluate the effect of different concentrations of 2,4-D in the somatic embryogenesis of sugarcane cv. RB935744. This cultivar has a late maturity curve with high yield and it is resistant to main sugarcane diseases. Immature leaf tips (8 mm in diameter) from 7-9 month-old field grown sugarcane plants were hand cut into thin sections of 3-4 mm in length and used as source of plant material. The explants were transferred to MS medium supplemented with three different concentrations of 2,4-D (4.5, 13.5 and 31.5 μM) and kept for 45 days in the dark (25 ± 2 °C). The best results were achieved using 2,4-D at 31.5 μM with 50% embryogenic tissue formation. These preliminary results indicate that this protocol with high frequency of embryogenic tissue formation is suitable to be used for further studies on sugarcane micropropagation and genetic transformation.

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