

EFFECT OF 2,4-D ON REPETITIVE SOMATIC EMBRYOGENESIS IN CACAO (*THEOBROMA CACAO* L.). Santos MO*, Tinoco MPL, Barros, EVSA e Brasileiro ACM. Laboratório de Transferência de Genes, Embrapa Recursos Genéticos e Biotecnologia. Brasília - DF CEP 70770-900. marcelo@cenargen.embrapa.br

The asexual propagation of cacao tree is done mainly by cuttings. An alternative strategy for vegetative propagation, somatic embryogenesis, could occur when cells of a proper tissue become determinate under inducible "in vitro" conditions. The herbicide 2,4-D (2,4-dichlorophenoxyacetic acid) is commonly used as plant growth regulator (PGR) to induce somatic embryogenesis. In cacao, this auxin-like PGR was described as a powerful inducer of this phenomenon. At the present work, the effect of 2,4-D on induction of repetitive somatic embryogenesis at globular stage, was tested. For that, staminoids were isolated from unopened floral buds and inoculated on primary callus growth medium containing different levels of 2,4-D (2, 3, 4, 8, 10 and 20 mg/L). The formed calli were transferred to the same conditions every two weeks during 2 months. A second group of 2 weeks old calli was submitted to a pulse of 2 hours at 50 and 200 mg/L of 2,4-D. After that, they were transferred every 2 weeks on primary callus growth medium containing 2 mg/L of 2,4-D. Levels over than 8 mg/L lead calli death and the both pulses of 2,4-D induced roots formation on calli. Dosages less than 8 mg/L produced repetitive globular embryos after 3 subcultures. The frequency of repetitive embryogenesis and the number of globular embryos was higher at 4 mg/L of 2,4-D. All embryogenic mass was able to differentiate on bipolar embryos after transfer to embryos development medium. Repetitive globular embryos were efficiently used to propagate and to transform other plants. Thus, the described system would be used as "in vitro" propagation and cacao genetic transformation. Órgão Financiador : Embrapa, CNPq e CAPES