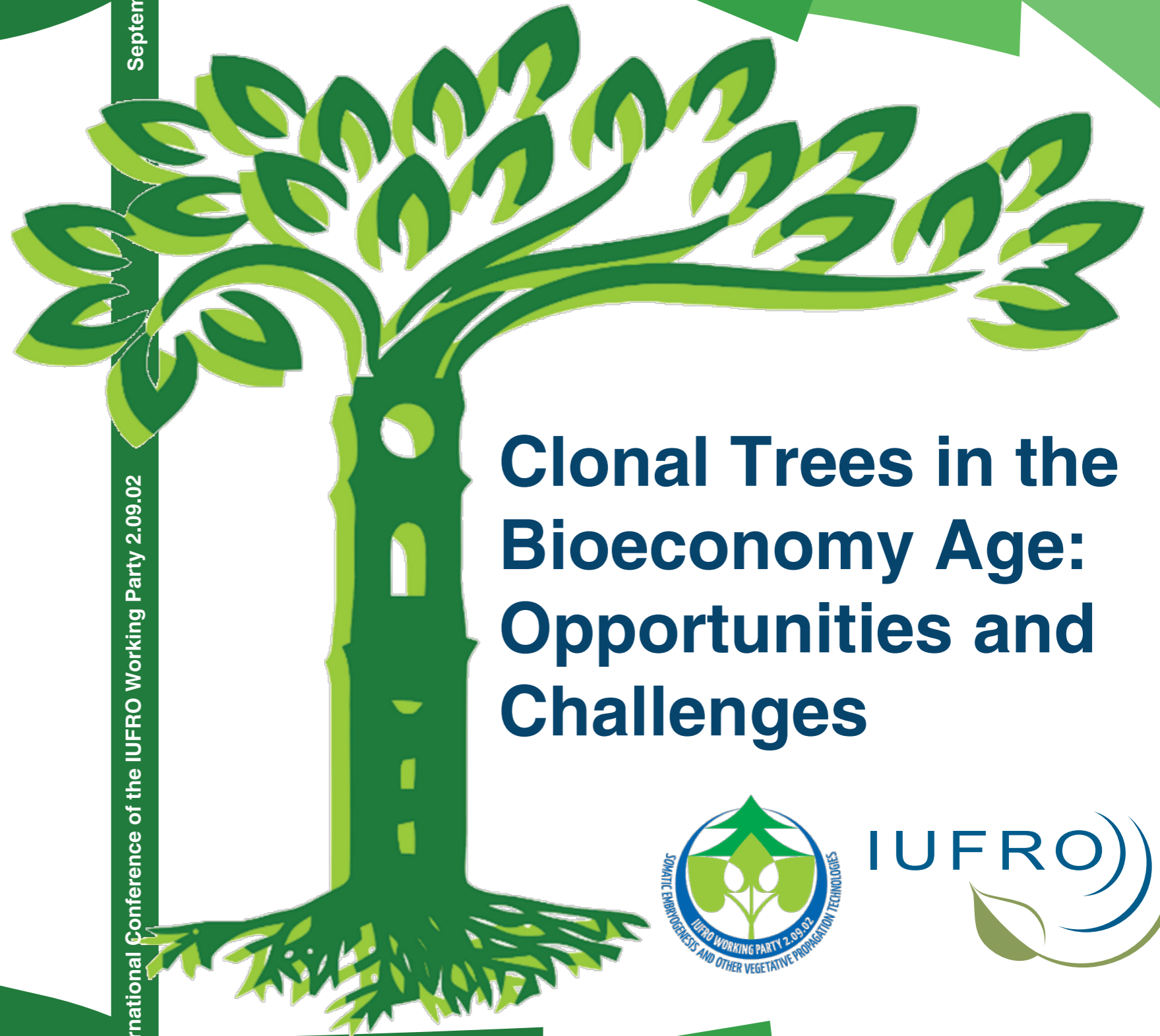


Fifth International Conference of the IUFRO Working Party 2.09.02

Somatic Embryogenesis and Other Vegetative Propagation Technologies

September 10-15, 2018



Clonal Trees in the Bioeconomy Age: Opportunities and Challenges



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**Clonal Trees in the
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Opportunities and Challenges
September 10-15, 2018,
University of Coimbra, Portugal**



Somatic embryogenesis induction in BC1 hybrid zygotic embryos oil palm (*Elaeis oleifera* x *Elaeis guineensis*) x *Elaeis guineensis*

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The caiaué or American oil palm (*Elaeis oleifera*) is the only source currently available for tolerance to Fatal Yellowing (FA), a condition that can cause plant's death and has unknown cause and considered the major threat to this culture in Latin America. In this sense, the Program of Genetic Improvement of the Oil Palm belonging to Embrapa Western Amazon has been focused on the development of cultivars resulting from the hybridization of the African oil palm (*E. guineensis*) x caiaué. Among the applied methodologies, hybridization via backcrossing, which consists of crossing the African oil palm (recurrent parent) and the caiaué (donor) that generate backcrossing progenies (CR) of high variability and superior to those intraspecific. For the genus *Elaeis*, cloning BC1 progenies by somatic embryogenesis is considered an important tool that allows the replication of selection trials easier. Considering the specificity of protocols, this work had the objective to evaluate the induction and proliferation of embryogenic calli in zygotic embryos of CR1 of *E. guineensis* [(OxG)xG]. Zygote embryos cultured for 90 days on MS and Y3 medium with 2,4-D and (450 µM) were transferred to basal medium with 40 µM auxin combined with 2iP (0 and 10 µM). The primary calluses presented slow growth formation. At the end of 90 days of cultivation, no significant statistical difference was observed for any of the variables evaluated for culture medium and auxins and their interactions. In the medium of multiplication at 150 days, the picloram was superior to 2,4-D, favoring the proliferation of primary calli, as well as the formation of embryogenic potential structures, either in MS or Y3.

Keywords: Caiaué, callus, culture medium, plant growth regulators.