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EFFECT OF TEMPORARY IMMERSION CULTURE (RITA) ON PROLIFERATION OF AVOCADO SOMATIC EMBRYOS

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Proliferation of avocado somatic embryos was evaluated using a temporary immersion culture system provided by RITA devices (Teisson et al., 1996). Avocado somatic embryos, induced from juvenile seed tissues as in Pliego-Alfaro and Murashige (1988), were incubated in liquid proliferation medium (PM) consisted of MS medium supplemented with 0.1 mg/L Picloram. The effect of the weight of the primary explant (0.5, 1, 2 mg) and immersion number per day (2, 3 or 4 immersions per day) on proliferation of the embryogenic material were studied after 2 weeks of treatment. Fresh weight increase, average size of somatic embryos, necrosis, and differential growth and development of somatic embryos were recorded and compared with the control explants growing on solid PM. Results indicated that temporary inmersion improved growth of embryogenic material of avocado. Optimum growth occured applying 3 inmersions per day. In these conditions, 1 g of primary explant incubated in 100 mL medium, increased more than 11-fold the fresh weight, with low necrosis percentage (30%) and with a significant thickening of the somatic embryos, which increased two times the individual size average.