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Obtention of in vitro Haploid Plants From in situ Induced Haploid Embryos in Cucumber (Cucumis sativus L.)

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Abstract: In this study the obtention of in vitro haploid plants from haploid embryos induced by pollination with irradiated pollen was investigated. The haploid embryos of four cucumber genotypes obtained in different season of the year were cultured on the E20A medium under aseptic condition in 1992-1994. The percentage of embryos that turned into plantlets, duration needed for plant formation, and in situ plantlet development were investigated. Also, the micropropagation possibility with clonning and propagation coefficient of plantlets were determined. The ability of embryos at advanced-stages to form plants was found to be higher (60 % in the first year and 80 % in the second year) than the ones at globular stage. These embryos also produced haploid plants rapidly (in 3.5-day). A higher number of haploid plants was derived from the embryos that were cultured from May to September than from the ones that were cultured in other periods of a year. A maximum of 82 % of the embryos cultured in June produced haploid plants in the second year. The plantlets developed well on the media used and could be cloned with ease. The interval between successive clonings was approximately 30 days. The number of micro cuttings per plant ranged from 3 to 12. Beside that fact that the number of haploid plants per fruit was not high enough, total 190 haploid plants were obtained in four genotypes throughout the study.

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