

Clonal propagation of cashew (*Anacardium occidentale* L.) by stem cuttings and *in vitro* adventitious shoots and roots formation

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1 ABSTRACT

The cashew main production is derived from orchards obtained with unselected trees. Consequently, in Côte d'Ivoire, Cashew production is characterized by poor yield and a high susceptibility to pathogens. Conservation of elite trees in germplasm collection in order to create genotype with high yield is a priority for research programs on cashew. This work aims to contribute to the improvement of the cashew's productivity. Thus, a successful cuttings propagation method and *in vitro* adventitious shoots and roots formation protocol was developed. Propagation by cuttings was performed using softwood and semi-hardwood cuttings collected from young seedlings. Cuttings were treated with Indole-butyric-acid (IBA) and set in non-mist poly-polypropagator. Concerning micropropagation, vitroplantlets were cut into three parts (proximal, median, and distal) and cultured on Murashige and Skoog medium supplemented with various concentrations of Benzyl-aminopurine (BAP) and IBA. The time required for buds and leaf emissions was estimated for both technics of propagation. Number of roots and emission times were also registered. Results revealed that the highest percentages of sprouting (95%) were obtained with semi-hardwood cuttings set in non-mist poly-propagator. The best average emergence times of buds (7 days) and leaves (13 days) were obtained with the same cutting type treated with IBA against, 10 and 16 days respectively for the control. Moreover, proximal and median parts induced 3 to 6 shoots per explant on MS medium supplemented with BAP. Eighty four percent of proximal explants produce shoots against 63% and 50% for median and apical parts, respectively. In addition, proximal part produces more than 10 roots per explants when MS medium is supplemented with 22.5 mg l⁻¹ IBA.