

Reproducibility of Somatic Embryogenesis Upon Resampling of Oil Palm Ortets

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Somatic embryogenesis remains to be a key bottleneck in oil palm clonal propagation and resampling of embryogenic ortets may be one approach to alleviate this problem. Resampling, is currently practised by oil palm tissue culture laboratories to increase the production of clones from elite ortets. However, reproducibility of the embryogenesis outcome from resampling exercises has not been examined in detail. Therefore, embryogenesis reproducibility upon resampling was evaluated using the concordance correlation coefficient analysis. Sampling and resampling were conducted when ortets were seven to 19 years old. Resampling interval periods of three to eight years showed moderate concordance in embryogenesis reproducibility. An alternative analysis approach through categorising the ortets based on their embryogenesis outcomes into zero, low, medium and high embryogenesis categories indicated that 54.4 per cent of ortets reproduced their embryogenesis outcome while 35.6 per cent showed a shift by one embryogenesis category upon resampling. A resampling interval of 10 years was associated with a decline in embryogenesis outcomes. Observations from this study may help tissue culture laboratories in refining the selection of ortets for clonal propagation with the possibility of improving success rates in resampling exercises and thereby reducing operational costs.

Keywords: *Ortet, concordance, non-embryogenic, sampling interval.*