

## Development of simple sequence repeat (SSR) markers for oil palm and their application in genetic mapping and fingerprinting of tissue culture clones

### ABSTRACT

This study describes the application of a simple and effective method to isolate SSR markers from oil palm genomic sequences. A total of 12 informative SSR markers are described. The SSR markers were found suitable for genome analysis and DNA fingerprinting of oil palm tissue culture clones. Eleven of the 12 SSR markers exhibited expected Mendelian segregation ratios when tested on a mapping population, indicating their suitability for genetic mapping studies. The markers identified in the species *Elaeis oleifera* also showed applicability in a second species, that is *Elaeis guineensis*. Apart from genetic mapping, the SSR markers also showed promise as molecular probes for DNA fingerprinting of oil palm tissue culture clones. The SSR markers can be used for clonal identification, monitoring line uniformity between and within clones and detecting culture mix-up.

**Keyword:** DNA fingerprinting; Oil palm; SSR