A snapshot of the epigenetic mechanisms at work in "mantled" oil palm inflorescences

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The "mantled" floral variation of oil palm is similar to floral B-class MADS-box genes mutant phenotypes, since the male organs appear to be converted into female ones.
We propose to build upon the previous isolation of the *EgDEF1* and *EgGLO2* genes in oil palm and to undertake a comprehensive investigation of the epigenetic mechanisms controlling their expression and of their role in the onset and in the maintenance of the "mantled" somaclonal phenotype. We are currently investigating the DNA methylation patterns within the regulating and coding sequences of these genes, as well as the chromatin conformation of the surrounding genomic domains. Although the experiments are still in progress, our preliminary results suggest the existence of a differential epigenetic pattern between true-to-type and "mantled" inflorescences. The implication of this discovery, with respect to the "mantled" abnormality, will be discussed.

Keywords: epigenetics, somaclonal variation, MADS-box genes, flower development.