W552

A Story of Flasks and Flowers: New Perspectives in the Search for Markers of the *Mantled* Somaclonal Variation of Oil Palm

Date: Sunday, January 11, 2015
Time: 1:30 PM
Room: Towne - Meeting House

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The *mantled* somaclonal variation of oil palm (*Elaeis guineensis* Jacq.) is morphologically similar to mutants defective in MADS-box genes of the B-class. Indeed in such mutants male floral organs are converted into female ones and this can be observed in oil palm flowers of both sexes.
The detrimental consequences of somaclonal variation on fruit set then oil yields and its unpredictable incidence in clonal progenies have prompted the search for early detection markers. More generally, a better understanding of the molecular mechanisms underlying the onset and the maintenance of this variant phenotype is needed. The *mantled*somaclonal variation is observed only in clonal populations generated through somatic embryogenesis at a large commercial stage.
Thus, because of the nature of the variation, research strategy must involve two parallel approaches aimed at studying simultaneously the *in vitro* stages of clonal palms production (the flask) and the *in planta*development of the reproductive organs which are affected by the phenotype (the flower).
On both materials a novel combination of epigenetics approaches, high-throughput sequencing technologies and bioinformatics analyses now provide new insights into a complex developmental phenomenon. Our research work also paves the way for innovation and development oriented towards end-users in the palm oil industry.

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Meeting Information

When:
January 10 - 14, 2015
Where:
San Diego, CA