

Investigating the epigenetic regulation of reproductive development in the oil palm

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The oil palm (*Elaeis guineensis* Jacq.) is the first world source of vegetable fats, and as such it is generating a great amount of research efforts. In particular, understanding the molecular mechanisms underlying the setting up of the reproductive organs and their consecutive development in flowers and fruits appears essential in the perspective of improving oil production.

The complexes formed by Polycomb group (PcG) proteins are involved in an epigenetic memory system which represses the expression of developmental regulator genes in both animals and plants and thereby promotes phase changes. Among the PcG proteins, those involved in the Polycomb Repressive Complex 2 (PCR2), *i.e.* the members of the ENHANCER OF ZESTE [E(Z)], SUPPRESSOR OF ZESTE 12 [SU(Z)12] and EXTRA SEX COMBS [ESC] superfamilies are known to act on the MADS-box genes controlling floral organogenesis through the formation of heterochromatin.

The aim of the present project is 1) to identify the oil palm orthologues of the PcG genes and 2) to characterize their expression during inflorescence and fruit development.