

Séminaire Biologie des Plantes

Les séminaires ont lieu sur le Campus Montpellier SupAgro/INRA de La Gaillarde
(2, place P. Viala Montpellier)

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Jeudi 15 décembre 2011
Amphi 206 (Cœur d'Ecole) à 14h00

Patrick Laufs

(Institut Jean-Pierre Bourgin, INRA Centre de Versailles-Grignon)

When dissecting is shaping: roles of the /CUC/ genes during leaf development.

Leaf margins show various levels of dissection/outgrowth such as lobes or serrations in simple leaves, or leaflets in compound leaves. Variations in the pattern of dissection contribute to a large extent to inter- and intra-species leaf shape diversity. Although much progress has been made during the last decade in deciphering the regulatory networks controlling leaf shaping, the basis of this tremendous diversity is not yet understood.

Here, we'll present the contribution of the /CUC/ genes to leaf dissection in Arabidopsis and other Eudicots. These genes, which code for plant specific transcription factors of the NAC family, were initially identified for their role in organ separation and meristem promotion. We show that they have a conserved expression pattern at the leaf margins and that they are essential for all levels of marginal dissection/outgrowth.

We further analysed the role of the /CUC1/, /CUC2/ and /CUC3/ genes in the serration of Arabidopsis leaves. We show that in addition to /CUC2/, /CUC3/ contributes to leaf dissection, though via a different mechanism. In contrast, /CUC1/ is not involved in Arabidopsis leaf serration, though CUC1 can efficiently replace CUC2 when expressed at the leaf margin. Specific and overlapping roles of the /CUC/ genes during leaf development will be interpreted in the light of the evolutive history of the /CUC/ genes within the Brassicales.

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Séminaire 2012 prévu :

Jeudi 5 janvier : Alexandre Martinière