



Molecular Mechanisms Regulating Asymmetry in Crop Plants Embryogenesis and Growth

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Message from the Guest Editors

Dear Colleagues,

In plants, as sessile organisms, symmetry has an important meaning. Plants exhibit both radial symmetry and bilateral symmetry, often at the same time. In flowers, for example, this is important for pollination strategy. In plants, loss of symmetry can occur at the molecular, subcellular, tissue, organ, and body levels. Axes of asymmetry might be formed during higher plant embryogenesis and can be maintained and elaborated during growth. It is particularly interesting to go deep inside the mechanisms that specify how the different axes are coordinated and interact to ensure a normally functioning plant. Most of the genes known to influence asymmetry in plants appear to act indirectly in the process. The mechanisms guiding plant symmetry remain poorly understood. The identification of upstream regulators of symmetrically and asymmetrically expressed genes may offer some new important advances. Axis specification in animals usually results from chemical gradients, in a concentration-dependent manner. In plants, there are several pieces of evidence suggesting the involvement of auxin in plant asymmetry...





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Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

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