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Sommario/riassunto	<p>The phenotype of a plant in response to a stress condition is the reflection of the molecular responses in different cell-types composing the plant. The multicellular complexity represents a challenge when accessing specific responses of each cell or cell type composing the plant. To overcome this difficulty and allow the clear characterization of the plant cell molecular mechanisms, the research community is now focusing on studying a single cell and single cell-types. The isolation of plant single cells is limited by the cell wall that confers the rigidity of the plant and its overall structure. Various methods have been developed for isolating plant cells (e.g. laser capture microdissection; cell sorting of Green Fluorescent Protein (GFP)-tagged protoplasts, differential protoplastization of cells such as guard cells, isolation of easily accessible cell types such as cotton fiber, pollen cells, trichomes and root hair cells). The development of these innovative approaches to isolate single plant cells or cell-types combined with the application of sensitive and high-throughput technologies allows a better analysis of the developmental processes and response to environmental stresses. Ultimately, single plant cell and cell-type biology will lead to establishment of more reliable and accurate -molecular regulatory networks at the resolution of basic life unit. The goal of this Research Topic is to cover new technological and biological advances in the study of plant single cell, cell-type and systems biology.</p>