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Sommario/riassunto	<p>The production of cellular oxidants such as reactive oxygen species (ROS) is an inevitable consequence of redox cascades of aerobic metabolism in plants. This milieu is further aggravated by a myriad of adverse environmental conditions that plants, owing to their sessile life-style, have to cope with during their life cycle. Adverse conditions prevent plants reaching their full genetic potential in terms of growth and productivity mainly as a result of accelerated ROS generation-accrued redox imbalances and halted cellular metabolism. In order to sustain ROS-accrued consequences, plants tend to manage a fine homeostasis between the generation and antioxidants-mediated metabolisms of ROS and its reaction products. Well-known for their involvement in the regulation of several non-stress-related processes, redox related components such as proteinaceous thiol members such as thioredoxin, glutaredoxin, and peroxiredoxin proteins, and key soluble redox-compounds namely ascorbate (AsA) and glutathione (GSH) are also listed as efficient managers of cellular redox homeostasis in plants. The management of the cellular redox homeostasis is also contributed by electron carriers and energy metabolism mediators such as non-phosphorylated (NAD⁺) and the phosphorylated (NADP⁺) coenzyme forms and their redox couples DHA/AsA, GSSG/GSH, NAD⁺/NADH and NADP⁺/NADPH. Moreover, intracellular concentrations of these cellular redox homeostasis managers in plant cells fluctuate with the external environments and</p>

mediate dynamic signaling in plant stress responses. This research topic aims to exemplify new information on how redox homeostasis managers are modulated by environmental cues and what potential strategies are useful for improving cellular concentrations of major redox homeostasis managers. Additionally, it also aims to provide readers detailed updates on specific topics, and to highlight so far unexplored aspects in the current context.
