

Nutritional regulatory networks in plants

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To optimize their growth and development, plants, as sessile organisms, have developed a range of efficient mechanisms to sense and respond adequately to ever changing environmental conditions. The production of sugar through photosynthesis primarily relies on light accessibility. These photosynthetic-derived sugars represent important signals, which, in combination with developmental and other environmental cues, such as mineral nutrition, water availability or pathogens attacks, influence the use of energy resources to ensure survival and propagation. Interaction between developmental, hormonal and sugar regulatory signals are deeply involved in growth control. Our knowledge about the molecular mechanisms responsible for the cross talk between these different signaling pathways and their diversification in green plants are significantly growing. New insight into the integration of energetic status and stress responses will be presented and discussed.