

SUCROSE METABOLISM CONTROL IN PLANTS AS RESPONSE TO CHANGES OF ENVIRONMENTAL CONDITIONS

Summary

Sucrose is a final product of photosynthesis; it is transported to the sink organs of a plant where it is used as substrate, metabolized to other organic compounds or stored. Besides, sucrose has a nonnutritive role – controlling plant growth, development and regulation of cell metabolism. This review summarizes information on the key enzymes of sucrose synthesis and breakdown, and regulations of their activity (transcriptional, translational control or post-translational modifications) under unfavourable con-

ditions. Changes of carbohydrate concentration in tissues have been frequently shown to be involved in plant responses to different stresses. Changes in sugar content influence the expression of various genes *via* a variety of signal transduction pathways. The regulatory role of sucrose, e.g. control of its own metabolism, and possible interactions of sugar-response pathways with other signalling events are discussed.