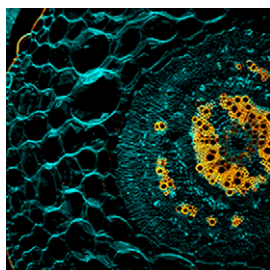


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ON THE COVER



Sugar beet (*Beta vulgaris*) is one of a few species that uses sucrose as the major molecule for carbohydrate storage. In its second year of growth, when a thick fleshy taproot has formed and after experiencing a long period of cold (vernalization), carbohydrates are mobilized from the sucrose-filled taproot to fuel formation of the shoot and the subsequent development of generative organs. Rodrigues et al. (pages 3206–3223) document the reversal from a sink to a source of carbohydrate in sugar beet roots upon vernalization. The image on the cover shows a cross section, stained with Calcofluor-white and basic fuchsin, of a young sugar beet taproot with the first additional ring of vascular tissue and parenchyma surrounding the central cylinder. This young taproot—which at this point of development represents the major carbohydrate sink of the plant—will much later go through a major transition and will metamorphose to become a source of carbohydrates by translocating sucrose towards the shoot.

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