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Wardlaw I F. The control and pattern of movement of carbohydrates in plants. *Bot Rev.* 34:79-105, 1968.
[CSIRO, Division of Plant Industry, Canberra, ACT, Australia]

This paper reviewed work on the partitioning of photosynthate in plants based on the use of radioisotopes. It showed the importance of sink size, proximity, and vascular connections in establishing the relationship between sources and sinks and how these relationships could be modified by environmental factors. [The *SCI*® indicates that this paper has been cited in over 195 publications since 1968.]

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Scientists seem to find it difficult to write in the first person and, although there may be a number of reasons for this diffidence, I would like to think that it stems from the realization that any publication, even by a single author, has arisen through the cooperation of many individuals and a ready exchange of ideas between colleagues. This is certainly the case with my review on the movement of carbohydrates in plants.

My own research program in the 10 years from 1958 to 1967 centred on the control of assimilate partitioning in cereals and grasses, with a particular emphasis on the importance of phloem transport in regulating the response of plants to environmental changes. This work, which provided the background for my review, received every encouragement from Dennis Carr (my PhD supervisor at Melbourne University) and then subsequently from Lloyd Evans and other colleagues after I joined the CSIRO Division of Plant Industry in 1962.

The review was written at a time when crop physiologists were beginning to seek a better understanding of the factors controlling "harvest index" and yield in crop plants. At the same time, radioisotopes, particularly carbon-14 with its long half-life, were readily available for research and were finding an increased use in studies on the relationship between leaf photosynthesis and the pattern of assimilate supply to growing and storage organs. Like many authors, I was to some extent frustrated by what I believed to be a waste of a detailed survey of the current literature in my area of research, knowing that only a small part of this literature could be referred to in research papers if these were to be editorially acceptable! In the first instance, therefore, this review was in some ways a response to this frustration. Subsequently, I was encouraged by a comment from another colleague, Jim McWilliam, that this review might have a wider appeal than I anticipated. In response to this remark, I submitted the manuscript, uninvited, to *Botanical Review*.

As an author, I would like to think that this review was clearly written and provided a good coverage of the literature, but its general acceptance and frequency of citation probably relate more to its timing and to the fact that its conclusions were generally acceptable in the field.

Different aspects of the initial theme have been reviewed in recent years,[1,2] but since 1968 the literature has increased considerably and another review along identical lines to the first would now be an enormous task.

1 **Wardlaw I F.** Translocation and source-sink relationships (Carlson P S, ed.) *The biology of crop productivity* New York Academic Press, 1980 p 297-339
2 **Gifford R M & Evans L T.** Photosynthesis carbon partitioning and yield *Annu Rev Plant Physiol* 32 485-509, 1981