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Leopold A C. *Plant growth and development.* New York: McGraw-Hill, 1964. 466 p.; and **Leopold A C & Kriedemann P E.** *Plant growth and development.* New York: McGraw-Hill, 1975. 545 p.
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In reviewing the sector of plant physiology dealing with growth and development, this book attempted an integrated review of three major sectors: assimilation and growth, the regulation of growth, and ecological physiology. Special emphasis was given to using illustrative experimental data to support the generalizations made in the text. [The *SCI*® indicates that the 1964 and 1975 editions of this book have been cited in over 240 and 195 publications, respectively.]

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For many years I have held a conviction that reviews of a given science area would be more meaningful if generalizations were presented along with hard experimental data to support them. Without supportive experimental results, the reader is deprived of the kind of factual basis upon which science is built. With this conviction, I described to colleagues on various occasions that it was my intention to write an overall review that would attempt to present the results of real experiments leading to the generation of new ideas and conclusions. The usual response I received was that it seemed an attractive idea, but not a feasible one. I started writing this book nevertheless and approached the McGraw-Hill Book Company with my idea. The editor liked it, and a contract was closed. When I subsequently sent the manuscript to the publisher, however, it was sent back to me by return mail with the comment that there was no possibility that they could publish a text with over 400 figures. The publisher demanded that I revise it accordingly. Of course I refused. I then offered the manuscript to another publisher. This put pressure on McGraw-Hill, and they reluctantly agreed to go ahead.

I suspect that an important factor in the acceptance of this book by plant physiologists has been its utilization of actual experimental results along with the scientific generalizations. The usefulness of this style has been verified by the fact that such a format is used in reviews fairly commonly today.

When the second edition was prepared 10 years later with Paul E. Kriedemann, we were shocked by the fact that the literature citations for the second edition utilized only about 25 percent of those in the first edition. Perhaps we should not have been so surprised, however, since the half-life of scientific papers has been estimated to be between 5 years[1] and 7 years,[2] so in 10 years, a 75 percent decay in citation usefulness might well be expected. It is a humbling thought that the papers we are publishing today as hot, contemporary information may lose their relevance in such a brief time span.

The survival of any particular paper as an actively cited source may be assumed to be a reflection of its importance. Karl Popper pointed out that the principle of survival of the fittest may apply to the evolution of scientific ideas as well as to biological evolution.[3] Those publications that survive in the literature for longer times may be presumed to have had better fit, and hence greater importance in the shaping of scientific thought than those that survive briefly. We can judge the relative importance of our own contributions on the basis of their longevity in the realm of citations.

1. **Margolis J.** Citation indexing and evaluation of scientific papers. *Science* 155:1213-9, 1967. (Cited 50 times.)
2. **Brookes B C.** The growth, utility, and obsolescence of scientific periodical literature. *J. Documentation* 26:283-94, 1970.
3. **Popper K.** *Unended quest.* Glasgow: Fontana/Collins, 1974. 254 p. (Cited 90 times.)