

thesized from condensation of glycine and succinyl co-A. It is now, however, shown for certain that ALA biosynthesis in plants usually does not take place by this route, rather in the majority of plants it is synthesized via glutamic acid pathway. It would have been better if more information was also included for carotenoid biosynthesis.

While it is understandable that historical perspectives are also included, especially in a chapter on photosynthesis, it is as much essential to put the present concepts based on newer knowledge. There is so much known today regarding the two photosystems, Z-scheme and proteins involved in PSII and PSI which have not been included or even briefly cited. The mechanism shown for photolysis of water is an old concept. Reference to TPNH_2 instead of NADPH_2 may confuse a student. Description of CO_2 reduction cycle is extremely inadequate. Similarly a description on photorespiration has not been updated.

In the chapter on carbohydrates, role of sucrose phosphate synthase should have been elaborated and similarly in respiration, cyanide-resistant respiration, so unique to plants, should have found a place. The diagram on the mechanism of protein synthesis (chapter 15) has been taken from Cohen (1966). In this chapter a description of role of nitrate and nitrite reductase, is totally missing. In fact, the

genes of both the enzymes have been cloned and lot of data on protein structure are available.

The chapter on flowering gives a good account of what was known till early 1970s. We have new books related to molecular biology of flowering and a number of genes involved in flowering have been identified. However nothing of this finds a mention in the book. On p. 412, the author still refers to phytochrome as a glycoprotein! On p. 413 it is mentioned that red and far-red light shifts the double bond position and the reference cited is of Figure 109, which shows effect of night-break on flowering. While we know today of light-regulatory promoter elements and the *cis*-elements involved in transcription regulation, the book refers to only the experiments done with actinomycin D. On p. 425, the concentration of RNA is given in ppm.

In chapter 18 the newer methods of estimating hormones like radio immunoassays are not given at all. The mechanism of action of hormones has not been well described. It is mentioned that no hormone receptor has been found and the reference given is of 1981. Similarly it is mentioned that no cytokinin has been isolated from coconut milk and the reference is of 1955. In 1975, van Staden found zeatin and its ribosides from coconut water. On p. 529, it is written that gibberellic acid control is not possible to know! And we

know of 'GARE' elements (gibberellic acid responsive *cis* elements) in 5' upstream region of α -amylase gene which respond to the hormone. Similarly there has been a lot of information on phototropism and geotropism which finds no mention in chapter 20. In this chapter, however, nature and use of herbicides etc. has been well covered.

As pointed out by the author, the book has been written for botanists and for other well-informed persons who desire to understand various functions in living plants. For a general reader the book is too detailed, has no important observations and with very poor-quality pictures and graphs. For specialists it is lacking in up-to-date information. I can recommend this book for those who would like to know what is plant physiology and what topics are covered in such a course and for those who want to have an understanding of the earlier concepts. For serious students of plant physiology this book will have to be read along with other recent books or *Annual Review of Plant Physiology and Plant Molecular Biology*.

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Errata

In 'On the use of animals in research and education' (Jane Goodall, *Curr. Sci.*, 1995, **69**, 301-303), the name of the second author, Walter Miale was inadvertently omitted. We regret the error.

In 'Mushrooms: Beauty, diversity, relevance' (Subramanian, C. V., *Curr. Sci.*, 1995, **69**, 986-988) picture credits should read: Cover picture, figures 1, 3, 5 courtesy K. Natarajan; figures 7, 8, 10, 11 courtesy Chen, Hsinchu. On page 995 read 'Chemical structure of mushroom toxins and hallucinogens, after BRESINSKY and BESL', and not as printed.