preface

Plant sciences, like other fields of science, suffer from the problem that both the students and researchers have become more and more specialized and have only detailed knowledge of their own sector. In plant biochemistry there is the additional complication that most of the present general textbooks on biochemistry concentrate on the metabolism of animals and micro-organisms and even the most fundamental aspects of plant biochemistry find no mention. This may be the reason why knowledge of the biochemical processes in the plant—ultimately the basis of life on our planet—is not very widespread. My goal in writing this book was to try to awaken the interest of students in this subject.

I have taught and carried out research in both animal and plant biochemistry. Thereby I have come to the conviction that to deal with plant biochemistry in a productive way, it is very important to 'look over the fence' in order to be aware that certain metabolic processes in animals often take place in a very similar, or even in the same way, in plants and micro-organisms. Since research into the biochemical processes in animals and micro-organisms is often more intensive than that in plants, familiarity with general biochemistry is indispensable for a student of plant biochemistry.

Since there are many excellent textbooks on general biochemistry, I have deliberately omitted dealing with elements such as the structure and function of amino acids, carbohydrates, and nucleotides, the function of nucleic acids as carriers of genetic information, and the structure and function of proteins and basis of enzyme catalysis. I have dealt with topics of general biochemistry only when it seemed necessary for enhancing understanding of the problem in hand. Thus, in the end this book is a compromise between a general and a specialized textbook. When choosing the topics my aim was to enable the reader to understand thoroughly certain basic reactions in plant biochemistry, such as photosynthesis. Therefore I have attached importance to an easily understood description of the principles of metabolism.

I intended to give the reader a general view of the whole subject of plant biochemistry. I have tried to show how it can be applied and also to incorporate molecular biology. It is my aim that every student interested in biochemistry also knows which steps are necessary to produce a transgenic plant and is aware of the goals of plant gene technology.

I am very grateful to the many colleagues who, through discussions and the