

Preface

Botany is a fundamental course for the specialty of biology. The objectives of the course are to have students know morphological characteristics and functions of plant cells, tissues and organs, and master basic knowledge and skills of morphological anatomy associated with vegetative and reproductive organs after students complete the course. Students are required to have a preliminary understanding of various plant groups and their relationships. These will lay a foundation for students to learn Plant Taxonomy, Plant Physiology, Plant Ecology, Plant Resources, Genetics, Cytology, Molecular Biology, etc. in the future. Through the study of Botany, it is expected that students will grasp the current tendency of botanical research at home and abroad, have the capacity of referring to references themselves, and strengthen their enthusiasm about plant sciences. It is hoped that study of Botany will lay a foundation for students to have the potential to become an internationally professional biologist with a wide view.

The numerous questions which young people ask about plants are best answered by themselves. No other method gives right answers so quickly and satisfactorily. In this book, familiar utensils and familiar plants will be used in the experiments simplified as far as could. This book may be used by both teachers and pupils. In order to get the knowledge in the classroom and out of it, some notes should be kept, but the note-taking should not be made a burden. The following items have been found useful.

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(1) There must be a very interesting question that most students are interested in, which can't be a task the teacher gives.

(2) How to answer the question? The method should be creative whether it is by observation or by experiment.

(3) We should choose the right and typical plant material as a sample to do the lab.

(4) The time and the frequency of observation must be decided exactly and rationally.

(5) Never forget to add the control experiments.

(6) The results should be concise and clear, and the data should be listed in table if necessary.

(7) Information should be obtained from the lab and it will provoke new questions and experiments.

Where each experiment is to be done by each individual, a laboratory is necessary. Where each is to be done by a group or action of the class, only a limited space is needed. Where each is done by the class as a whole, a single shelf in front of a window and a drawer beneath it used to hold the utensils will suffice.