

Demonstrates how advances in plant chemical biology can translate to field applications

With contributions from a team of leading researchers and pioneers in the field, this book explains how chemical biology is used as a tool to enhance our understanding of plant biology. Readers are introduced to a variety of chemical biology studies that have provided novel insights into plant physiology and plant cellular processes. Moreover, they will discover that chemical biology not only leads to a better understanding of the underlying mechanisms of plant biology, but also the development of practical applications. For example, the authors discuss small molecules that can be used to identify targets of herbicides and develop new herbicides and plant growth regulators.

The book begins with a historical perspective on plant chemical biology. Next, the authors introduce the chemical biology toolbox needed to perform successful studies, with chapters covering:

- Sources of small molecules
- Identification of new chemical tools by high-throughput screening (HTS)
- Use of chemical biology to study plant physiology
- Use of chemical biology to study plant cellular processes
- Target identification
- Translation of plant chemical biology from the lab to the field

Based on the latest findings and extensively referenced, the book explores available compound collections, principles of assay design, and the use of new research tools for the development of new applications.

Plant Chemical Biology is recommended for students and professionals in all facets of plant biology, including molecular biology, physiology, biochemistry, agriculture, horticulture, and agronomy. All readers will discover new approaches that can lead to the development of a healthier and more plentiful global food supply.

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