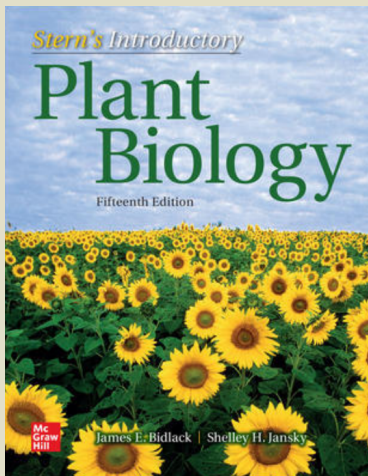


# List of Changes



## **Stern's Introductory Plant Biology 15th Edition Bidlack/Jansky**

ISBN: 1260240835 / 9781260240832 / © 2021

A major new feature in the fifteenth edition is the presentation of learning objectives at the beginning of every major heading. This will guide students regarding important concepts in each section. Most of the major changes in the book have been made as a result of new discoveries and technologies in plant biology. This edition still retains the hallmark style and pedagogy that make it one of the most enduring and popular introductory plant biology books on the market, and it now has a more contemporary look, writing style, and appearance.

For instructors using Internet resources such as Connect® and the textbook website offered by McGrawHill, all learning outcomes are directly tied to assessment within the question and test banks. With encouragement from reviewers, the new material has been eloquently incorporated directly into the textbook narrative and as text boxes, to provide a blend of historically important principles as well as modern developments in plant biology.

SEE LIST OF CHANGES ATTACHED.

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## Changes to Bidlack, Stern's Introductory Plant Biology, 15e

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**Chapter 1 (What Is Plant Biology?):** The introduction has been extensively rewritten to address contemporary topics, such as climate change, the opioid crisis, and plant genetic resources. A section has been added on gene editing and bioinformatics. The chapter has been updated with eight new images.

**Chapter 2 (The Nature of Life):** The section on features of living organisms has been combined and condensed from eight to five topics. The opening image has been updated, as have four additional images.

**Chapter 3 (Cells):** A new image of a compound microscope has been added. The discussion of the cell wall has been updated.

**Chapter 4 (Tissues):** A text box has been added to discuss THC in marijuana. The distinction between vessels and vessel elements has been clarified.

**Chapter 5 (Roots and Soils):** Two new images have been added.

**Chapter 7 (Leaves):** The introduction, relating leaves to solar power plants, has been updated. A discussion of compounds produced by marijuana has been added.

**Chapter 8 (Flowers, Fruits, and Seeds):** Pedicle and peduncle have been defined, and their definitions have been added to the glossary. A higher-quality image of carrot seeds has been added.

**Chapter 9 (Water in Plants):** A text box has been added to compare xylem and phloem. The section on water flow into roots has been updated.

**Chapter 11 (Growth and Development):** Several sections have been updated, including senescence, plant movements, gravitropism, and photoperiodism. A discussion of growing degree days was added.

**Chapter 12 (Meiosis and Alternation of Generations):** The GISHFISH text box has been replaced with a box that describes classification schemes based on life cycles. Six new images have been added.

**Chapter 13 (Genetics and Molecular Biology):** A new figure has been added to illustrate chromosomal rearrangements and aneuploidy/polyploidy.

**Chapter 14 (Plant Breeding, Propagation, and Biotechnology):** The model for the domestication of the first cereal grains has been updated. The opening image has been replaced with one that shows a production field for salad greens.

**Chapter 15 (Evolution):** Seven new images have been added.

**Chapter 16 (Plant Names and Classification):** The opening image has been replaced, and three new images have been added.

**Chapter 17 (Domain (Kingdom) Bacteria, Domain (Kingdom) Archaea, and Viruses):** A pie chart has been added to show the estimated distribution of major groups of organisms on Earth. Ten new images have been added.

**Chapter 18 (Kingdom Protista):** This chapter has a new key theme box discussing kleptoplasty in dinoflagellates that cause red tides. Ten new images have been added.

**Chapter 19 (Kingdom Fungi):** A new key theme box has been added to introduce the reader to white nose syndrome, which has killed millions of bats. Six new images have been added.

## Changes to Bidlack, Stern's Introductory Plant Biology, 15e

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**Chapter 20 (Introduction to the Plant Kingdom: Bryophytes):** The introduction has been extensively re-written to introduce the bryophytes in the context of the establishment of land plants. Throughout the chapter, the concept of alternation of generations is highlighted. A section has been added on primitive humans preserved in bogs. The image of moss sporophytes has been enlarged.

**Chapter 25 (Ecology):** The introduction to the carbon cycle has been revised and updated. New climate change data and examples have been added. Graphs showing atmospheric carbon dioxide and temperature across time have been added.

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