Environmental Plant Science

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Preface

Environmental Plant Science is an interdisciplinary field that explores the intricate relationships between plants and their environment while addressing some of the most pressing global challenges, including climate change, biodiversity loss, soil degradation, pollution, and food insecurity. Understanding how plants respond to environmental stresses and contribute to ecosystem sustainability is essential for developing resilient agricultural systems and conserving natural resources.

Environmental Plant Science has been prepared to provide students, researchers, academicians, and professionals with a comprehensive understanding of the principles and emerging developments in plant–environment interactions. The book covers key topics such as plant physiology under abiotic and biotic stresses, soil–plant–water relationships, plant nutrition, environmental pollution, climate change adaptation, phytoremediation, biodiversity conservation, sustainable crop production, precision agriculture, and recent advances in molecular and biotechnological approaches for improving environmental resilience.

The editors sincerely acknowledge the valuable contributions of all authors, reviewers, and collaborators whose expertise has enriched this volume. Their collective efforts have ensured that the content is scientifically accurate, relevant, and accessible. We hope this book serves as a valuable academic resource and practical guide, inspiring innovative research, sustainable environmental stewardship, and responsible management of plant resources for the benefit of present and future generations.

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