Digital Tools and Trends in Agronomy

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Preface

Agronomy, the backbone of sustainable agriculture, is undergoing a remarkable transformation driven by rapid advancements in digital technologies. The book *Digital Tools and Trends in Agronomy* aims to present a comprehensive overview of how modern innovations are reshaping traditional farming practices into precise, efficient, and data-driven systems.

In recent years, tools such as remote sensing, Geographic Information Systems (GIS), artificial intelligence, machine learning, drones, and Internet of Things (IoT)-based sensors have revolutionized crop management, soil health monitoring, and decision-making processes. These technologies not only enhance productivity but also contribute to resource conservation and environmental sustainability—key challenges faced by global agriculture today.

This book brings together contributions from experts, researchers, and practitioners to explore the integration of digital solutions in agronomy. It highlights practical applications, emerging trends, and future prospects, making it valuable for students, academicians, policymakers, and progressive farmers alike.

Special emphasis has been placed on precision agriculture, climate-smart practices, digital advisory services, and data analytics, ensuring a holistic understanding of the subject. Each chapter is designed to bridge the gap between theoretical knowledge and real-world application.

We hope this book serves as a useful resource for fostering innovation, encouraging adoption of smart technologies, and ultimately contributing to a more resilient and sustainable agricultural system.

Ms. Supunya Nath **Dated - 26 Jan., 2026**
Dr. Y. Pavan Kumar Reddy
Dr. M. Malla Reddy
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