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| Nota di contenuto | Precision Agriculture for Sustainable Development: Concepts and Applications -- AI4AI: Revolutionizing Agriculture with Artificial Intelligence -- Evolving Role of Applied AI in Crop Farming -- Role of Artificial Intelligence in Precision Farming -- Precision Agriculture: Fuzzy Logic or Deep Neural Network Models for Robust Crop Disease Screening -- Machine Learning Models for Crop Management -- Enhancing Agricultural Climate Resilience through Machine Learning Models and Hyper-Parameter Tuning -- Enhancing Crop Resilience to Climate Change with AI -- AI-Based Smart Irrigation Systems for Water Conservation -- Sensor Technologies and Blockchain Integration for Data-Driven Precision Agriculture -- Satellite Imagery and GIS Applications in Precision Agriculture -- Leveraging GIS and Remote Sensing for Agricultural Advancement and Economic Development -- Projecting Ecological Footprint and Biocapacity: Insights into | |

Sustainable Agriculture and Development -- Projecting Ecological Footprint and Biocapacity: Insights into Sustainable Agriculture and Development -- Evaluating Sentinel-2 and Sentinel-1 for Land Use / Land Cover Classification in a Rice-Producing Region of Uruguay -- Enhancing Potato Crop Health: A CNN-Based System for Early Detection of Early and Late Blight -- Development of a Neutrosophic Set Theory based Feature Selection method for Classification of Paddy Seed -- Optimizing Potato Crop Water Quality: A Comparative Analysis of Machine Learning Techniques and Gradient Boosting Approaches -- EFFECTS OF THE FREQUENCY EMISSIONS OF THE Tadarita brasiliensis SIMULATED USING ELECTRONIC DEVICE FOR REPELLING Copitarsia decolora (Lepidoptera: Noctuidae) ADULTS.

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| Sommario/riassunto | This book offers a comprehensive analysis of artificial intelligence (AI) and data analytics in precision agriculture. The integration of technology in agriculture is revolutionizing traditional farming practices, paving the way for sustainability. Precision farming, powered by AI, IoT, and big data, optimizes resource use by enabling real-time monitoring of soil health, weather conditions, and crop growth. Automated irrigation systems and drones reduce water wastage and enhance productivity. Biotechnology advances, such as genetically modified crops and CRISPR gene editing, improve yield, pest resistance, and climate adaptability. Vertical farming and hydroponics offer space-efficient solutions, minimizing land degradation and water consumption. Robotics and autonomous machinery streamline labor-intensive tasks, reducing reliance on chemical inputs. Blockchain ensures transparency in the food supply chain, promoting fair trade and reducing food fraud. Renewable energy sources, like solar-powered farms, further lower agriculture's carbon footprint. By adopting these innovations, farmers can produce more with fewer resources, ensuring food security while preserving the environment. Embracing technology-driven agriculture is crucial for meeting global food demands sustainably, combating climate change, and fostering economic resilience in farming communities. The future of agriculture lies in intelligent, data-driven, and eco-friendly solutions that balance productivity with environmental stewardship. |