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Nota di contenuto	The present advances in research for potato production future trends and goals -- Advances in genotypic selection for potato improvement -- Impact of climate change on potatoes and mitigation strategies -- Advances in breeding for the development of new potato varieties -- Advances in molecular breeding, gene editing, and genetic transformation of potatoes -- Advances in research on potato seed production -- Advances in potato minitubers production through Aeroponics and ARC techniques -- Advances in agronomical management of potatoes -- Recent advances in organic potato cultivation -- Advances in soil and plant nutrient management of potatoes -- Application of Geospatial Technologies in Potato Crop Management -- Advances in quality improvement of potato tubers --

Advances in postharvest management and storage of potatoes -- Advances in abiotic stress management in potatoes -- Advances in insect pest management of potatoes -- Advances in disease management of potatoes -- Exploring the Indian potato sector from farm to table -- Basics of economics and marketing practices in potato production.

Sommario/riassunto

Potato (Solanum tuberosum L.) is the world’s third-most important food crop and the fourth-most important food crop in India. Potatoes are nutritionally very rich, fat-free and gluten-free, are high in dietary fibre as well as being enriched with vitamin C, B6, phenols, iron, potassium, phosphorus, magnesium, and protein content comparable to that of cereals. They are more energy-packed than any other popular vegetable and have the ability to combat hidden hunger, which is a major global health issue. The United Nations declared 2008 the International Year of the Potato (IYP) to increase awareness of the relationship that exists between poverty, food security, malnutrition, and the potential contribution of the potato to defeating hunger. Moreover, this magical crop can generate a higher yield compared to the other crops; hence, it is one of the most notable crops to eliminate hunger and poverty. Therefore, sustainable potato production is important for food security and social welfare in future climate change scenarios. Due to its shallow root system, potatoes are sensitive to environmental conditions and climate change. It is projected that potato yield may decrease up to 32% by 2050 due to increasing temperatures and drought conditions. Thus, future potato breeding programmes should focus on enhancing abiotic and biotic stress tolerance through the utilization of the natural germplasm conserved in different gene banks along with climate-friendly agronomical practices. Moreover, potato breeding should benefit from the effectiveness and ease of molecular techniques such as marker-assisted selection, genome-wide association studies, functional genomics, and transgenics. The development of new potato varieties can also be achieved via genetic engineering and genome editing. Disease-free potato seed production requires the integration of tissue culture methods, followed by the production of mini-tubers under an aeroponic system. As a staple food for millions, the potato has an extraordinarily rich past and a bright future. The demand for potatoes will increase in the future, which will be the driving force behind potato research. Hence, the present book is formulated for professionals, researchers, and postgraduate students working with advanced production, breeding, and postharvest technologies on potato crop specially in Indian perspective.