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Special Issue Reprint

Isolation and Control of Fruit and Vegetable Rot Fungi

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This Reprint, titled “Isolation and Control of Fruit and Vegetable Rot Fungi,” compiles cutting-edge research on a critical challenge in postharvest management: fungal decay of fresh produce. This volume addresses the entire spectrum of the issue, beginning with the essential step of isolating and characterizing specific pathogens from diverse fruits and vegetables, as these vary significantly by commodity, region, and storage stage. It then delves into the pathogenic mechanisms of key fungi, exploring molecular pathways, such as pH signaling and ergosterol biosynthesis in *Penicillium expansum*, and host defense responses. A major focus is the development and elucidation of sustainable control strategies aimed at reducing reliance on synthetic fungicides. This includes promising research on biological control agents (BCAs), their enhancement through biofilm formation and stress tolerance, the antifungal mechanisms of plant essential oils and natural compounds, and the novel use of metal ions. By integrating fundamental pathogen biology with applied green control technologies, this collection provides valuable insights for researchers and practitioners aiming to mitigate postharvest losses and promote sustainable agriculture.

