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| Autore | Vidhyasekaran P |
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| Nota di contenuto | 1. Introduction -- 2. Salicylic acid Signaling in Plant Innate Immunity -- 3. Jasmonate Signaling System in Plant Innate Immunity -- 4. Ethylene Signaling System in Plant Innate Immunity -- 5. Abscisic Acid Signaling System in Plant Innate Immunity -- 6. Auxin Signaling System in Plant Innate Immunity -- 7. Cytokinin Signaling System in Plant Immunity -- 8. Gibberellin Signaling in Plant Innate Immunity -- 9. Brassinosteroid Signaling in Plant Immune System. |
| Sommario/riassunto | Plants are endowed with innate immune system, which acts as a surveillance system against possible attack by pathogens. Plant innate immune systems have high potential to fight against viral, bacterial, oomycete, and fungal pathogens and protect the crop plants against wide range of diseases. However, the innate immune system is a sleeping system in unstressed healthy plants. Fast and strong activation |

of the plant immune responses aids the host plants to win the war against the pathogens. Plant hormone signaling systems including salicylate (SA), jasmonate (JA), ethylene (ET), abscisic acid (ABA), auxins, cytokinins, gibberellins, and brassinosteroids signaling systems play a key role in activation of the sleeping immune systems. Suppression or induction of specific hormone signaling systems may result in disease development or disease resistance. Specific signaling pathway has to be activated to confer resistance against specific pathogen in a particular host. Two forms of induced resistance, systemic acquired resistance (SAR) and induced systemic resistance (ISR), have been recognized based on the induction of specific hormone signaling systems. Specific hormone signaling system determines the outcome of plant-pathogen interactions, culminating in disease development or disease resistance. Susceptibility or resistance against a particular pathogen is determined by the action of the signaling network. The disease outcome is often determined by complex network of interactions among multiple hormone signaling pathways. Manipulation of the complex hormone signaling systems and fine tuning the hormone signaling events would help in management of various crop diseases. The book highlights the cutting-edge breakthroughs in the field of plant hormones-modulated priming plant innate immunity. It describes histone memory for information storage in gene priming, chromatin remodeling in priming, histone modifications in gene priming, DNA methylation in trans generational SAR, mobile signal complex, membrane signal receptor complex, Mediator complex, GCC motifs in JA responsive promoters, JAZ proteins, JAZ-CO1 complex, assembly of NINJA-IPL corepressor complex in JAZ scaffold, histone acetylation in JA-mediated signaling, crosstalk between hormones- and small RNA signaling systems, PYR/PYL/RCAR-PP2C-SnRK2 signaling complex, stomatal closure immune responses, hijacking hormone signaling pathways for pathogenesis, ubiquitin-proteasomes in hormone signaling pathways, phosphorelay signaling systems, DELLA proteins, and PAMP-PRR-hormone signaling interplay. The author explains the complex hormone signaling network providing more than 100 figures elucidating the different plant hormone biosynthesis pathways and also their signal transduction pathways. These features and more make this book the most up to date resource in the most fascinating field of 'Signals and Signaling Systems in Plant Innate Immunity'. .