Molecular Biology In Plant Pathogenesis And Disease Management

Investigations on various aspects of plant-pathogen interactions have the ultimate aim of providing information that may be useful for the development of effective crop disease management systems. Molecular techniques have accelerated the formulation of short- and long-term strategies of disease management. Exclusion and eradication of plant pathogens by rapid and precise detection and identification of microbial pathogens in symptomatic and asymptomatic plants and planting materials by employing molecular methods has been practiced extensively by quarantines and certification programs with a decisive advantage. Identification of sources of resistance genes, cloning and characterization of desired resistance genes and incorporation of resistance gene(s) into cultivars and transformation of plants with selected gene(s) have been successfully performed by applying appropriate molecular techniques. Induction of resistance in susceptible cultivars by using biotic and abiotic inducers of resistance is a practical proposition for several crops whose resistance levels could not be improved by breeding or transformation procedures. The risks of emergence of pathogen strains less sensitive or resistant to chemicals have been reduced appreciably by rapid identification of resistant strains and monitoring the occurrence of such strains in different geographical locations. EAN/ISBN : 9781402082474 Publisher(s): Springer Netherlands Format: ePub/PDF Author(s): Narayanasamy, P.

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