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Editors

Fungicide Resistance in Plant Pathogens

Principles and a Guide to Practical Management

Springer

Contents

Chapter 17
Monitoring Resistance by Bioassay: Relating Results to Field Use Using Culturing Methods

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Abstract Monitoring for fungicide resistance is becoming more important in light of increased selection for resistance in key agricultural pathogens. *Botrytis cinerea*, the causal agent of gray mold of small fruits, is considered a high-risk fungus and has developed widespread resistance to multiple fungicides in many strawberry production areas managed with site-specific fungicides. Rapid determination of location-specific resistance profiles in strawberry fields allows growers to identify weaknesses in their spray program and tailor spray sequences to farm-specific needs. Growers also appreciate the educational value when participating in monitoring programs. But a monitoring program also benefits the research scientists and allows for the detection of emerging new phenotypes as well as an improved understanding of the molecular basis of resistance and the origin and spread of fungicide-resistant isolates. This information can then be used to design better resistance management strategies. Management of isolates resistant to multiple fungicides is a new challenge that will need to be addressed with an integrated approach involving the implementation of resistance management strategies at the nursery and crop producer levels.

Keywords *Botrytis cinerea* • Gray mold • Grey mould • Multifungicide resistance • Nursery • IPM • Strawberry

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