

PEST AND DISEASES IN MANGO (*MANGIFERA INDICA* L.)

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EXECUTIVE SUMMARY

In this work, we review the most important pests and diseases that affect mango production worldwide as well as the main measures implemented to control them. Pests and diseases are the main factors that can impact sustainable mango fruit production in the tropics and subtropics worldwide. Commercial cultivation of mango, characterized by expansion to new areas, changing crop management, replacement of varieties and increased chemical interventions, has altered significantly the pest and disease community structure in this crop in the different mango producing regions. In addition, climate change is inducing the emergence of new pests and, whereas globalization and trade liberalization have created wide opportunities for mango commercialization growth, at the same time, this can result in faster dispersion of pests and diseases among different mango growing areas if proper sanitary measures are not implemented.

This review covers different topics related to pests and diseases in mango. First, a thorough description of the main pests and diseases that affect mango is provided. Second, the different approaches used in different mango producing countries for chemical and biological control are described. Third, recommendations for appropriate mango management techniques that include integrated pest and disease management, reduction in the use of chemicals and the implementation of a good monitoring and surveillance system to help control the main pests and diseases, are also discussed. Finally, the current knowledge on agrohomeopathy and Korean Natural Farming is analyzed and recommendations on future lines of research to optimize mango pest and disease control are discussed. The fight against mango pests and diseases will require internationally coordinated research, development and innovation efforts to find effective responses and proper management approaches to the extant pests and diseases and be prepared for new threats. This should include the selection of disease and pest tolerant/resistant varieties; the development of those varieties has so far been made through conventional breeding and selection programs and empirical selection made by growers, but new biotechnological approaches will surely speed up this process in the future. Ideally, effective mango pest and disease management will involve a holistic combination of management approaches combined with strict quarantine and regulatory measures that should be enforced for fruit and plant materials at entry points of countries in which mango is produced to prevent introduction of new pests and diseases.

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