Grapevine phylloxera: an integrated approach to management of a remerging pest in Australia

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Poster Abstract

Grapevine phylloxera Daktulosphaira vitifoliae Fitch attacks the roots and leaves of commercial and ornamental grapevines and has spread to most grape-growing countries. It was first detected in Australia in 1877 and is currently restricted to areas in Victoria and New South Wales primarily through quarantine and the use of resistant rootstocks. Phylloxera ‘outbreaks’ have been increasing in Australia in the last decade. To restrict spread of the insect an integrated approach to management is under development which considers critical stages of the insects’ life cycle and three phases of management (i) detection and surveillance (ii) screening for resistant host plant material and (iii) quarantine and disinfestation procedures. Chemical and molecular fingerprinting, emergence trapping and soil sensing are being developed and compared to conventional detection systems in field studies. A triphasic approach to rootstock screening against different phylloxera clonal lineages is made to develop resistance ratings applicable to Australia. Finally the efficacy of phylloxera disinfestation treatments for viticultural machinery and grape products and the importance of adherence to quarantine protocols is emphasised. All outputs from research are delivered to growers at annual National Phylloxera Management workshops.