



Proteomics International

LABORATORIES LTD

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Pioneering study reveals insights for diagnosing plant dieback in agriculture and forests

- Proteomics International and Curtin University's Centre for Crop and Disease Management collaborate to improve understanding of how dieback impacts plants
- *Phytophthora cinnamomi* causes root rot (dieback) and can spread rapidly, having a devastating impact on native vegetation and premium crops
- Researchers have discovered the commonly used dieback treatment phosphite works in three ways, with findings published in the *Journal of Proteomics*
- The discovery could assist in developing an early detection tool to help limit the spread of dieback

Proteomics International Laboratories Ltd (Proteomics International; ASX: PIQ), a pioneer in predictive diagnostics is pleased to confirm the successful collaboration with Curtin University's Centre for Crop and Disease Management (CCDM), with researchers making an important breakthrough in understanding how dieback impacts plants.

Phytophthora dieback is a plant disease that can spread rapidly and have a significant impact on native vegetation and premium crops such as avocados. *Phytophthora cinnamomi* is considered the species of dieback that has the greatest impact on biodiversity, and also causes tens of millions of dollars of crop losses annually in Australia alone^{1,2}.

Researchers from both Proteomics International and CCDM have discovered the widely used dieback treatment phosphite can impact *P. cinnamomi* in three ways – targeting the pathogen directly, increasing the plants natural defence against dieback, and increasing photosynthetic protein production.

The findings have been published in the *Journal of Proteomics*³.

Phosphite resistance has been confirmed in *P. cinnamomi* and it is hoped the new information will assist in detecting resistant dieback and learning more about the specific vulnerabilities of dieback, to assist in ensuring phosphite remains useful for producers in the long term.

Proteomics International Managing Director Dr Richard Lipscombe said it was pleasing that the Promarker technology could play a role in learning more about what can be a devastating plant disease. "By understanding the biochemical intricacies of phosphite's interaction with both pathogen and host, we are better equipped to develop diagnostic tools to accurately detect dieback in the soil, which would be of significant benefit to the agricultural industry, and others."

¹ www.csiro.au

² www.dbca.wa.gov.au/management/threat-management/plant-diseases/phytophthora-dieback

³ doi.org/10.1016/j.jprot.2024.105181

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Authorised by the Board of Proteomics International Laboratories Ltd (ASX: PIQ).

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About Proteomics International Laboratories (PILL) (www.proteomicsinternational.com)

Proteomics International (Perth, Western Australia) is a wholly owned subsidiary and trading name of PILL (ASX: PIQ), a medical technology company at the forefront of predictive diagnostics and bio-analytical services. The Company specialises in the area of proteomics – the industrial scale study of the structure and function of proteins. Proteomics International's mission is to improve the quality of lives by the creation and application of innovative tools that enable the improved treatment of disease.

About the Promarker™ Platform

Proteomics International's diagnostics development is made possible by the Company's proprietary biomarker discovery platform called Promarker, which searches for protein 'fingerprints' in a sample. This disruptive technology can identify proteins that distinguish between people who have a disease and people who do not, using only a simple blood test. It is a powerful alternative to genetic testing. The technology is so versatile it can be used to identify fingerprints from any biological source, from wheat seeds to human serum. The Promarker platform was previously used to develop PromarkerD, a world-first predictive test for diabetic kidney disease, that is currently being commercialised. Other tests in development include for endometriosis, asthma & COPD, oesophageal cancer, diabetic retinopathy and oxidative stress.

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