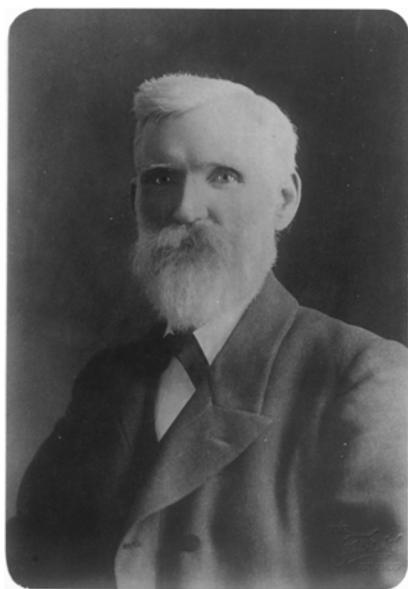


Preface



Daniel McAlpine 1849-1932

DANIEL McALPINE
PIONEER PLANT PATHOLOGIST
1849 to 1932

In brief notes on famous Australian botanists in 1949, the late Dr Jim Willis, then editor of *The Victorian Naturalist*, ended his entry on Daniel McAlpine with the following remark:

Like so many genii, he just retired to fade out of public notice and die in obscurity. I have sifted through the proceeds of publications that one would expect to be loud in praising his public worth, but the only tribute I can find is in the Australasian Journal of Pharmacy for October and November 1932.

It was a different story among the press and trade journals and in private correspondence with his family, but from the time of his death until the formation of the Australasian Plant Pathology Society in 1970, his worth was little appreciated other than by those whose own work led them into the world of this remarkable man.

When I joined the staff of the School of Botany at the University of Melbourne at the beginning of 1962, I gradually became aware that Daniel McAlpine's reputation within the School of Botany seemed not to be appreciated, and over time through discussions with Dr Ethel McLennan, I gained the impression that he had been deemed unsuccessful in his investigation of the cause and control of a serious problem of pome fruits, called 'bitter pit'.

In the early part of the twentieth century, revenue from apple production constituted a substantial proportion of the incomes of the southeastern Australian states. Consequently, the advent of bitter pit, which at times wiped out whole crops of apples and which, in some years, reduced the national apple crop by 50 % or more, and destroyed whole consignments of apple during the long voyages to Britain, was of national concern. This was serious enough to involve prime ministers such as Andrew Fisher, Joseph Cook and Billy Hughes to take nationwide action to understand and reduce the threat.

In 2010, Drs Peter Merriman and Peter Ridland were asked to sort through a pile of old files in the library at the Knoxfield Centre of the Victorian Department of Primary Industries, in preparation for its closure. Among the clutter, two significant files were found. One was the long believed lost manuscript of Charles French Snr's sixth volume of *Destructive Insects of Victoria*, since published in 2013. The second consisted of over a thousand documents detailing the lead into, the course, and the aftermath of the bitter pit investigation, which demonstrate McAlpine's substantial success in reducing the problem, but resulted in his ignominious retirement. The scientific knowledge required to elucidate the cause of bitter pit was not available until 40 years after the conclusion of the investigation. The consequence was that a reasonable understanding of the cause of this complex mineral deficiency did not emerge until the 1970s. Even without such knowledge, McAlpine was edging towards understanding the fundamental physiological process and physical modifiers involved, but in a vacuum of knowledge about minor and trace nutrients and the physiology of maturing and ripening fruit; he was denied the missing pieces of the puzzle.

He confirmed that neither infectious agents nor poisons were the cause. He realized that water availability was involved, but was confused by the observation that both deficiency and excess of water often led to the same result. The discovery of these files has enabled me to complete a fuller biography of this remarkable man.

Than was previously possible and to demonstrate that even though he did not regard himself as a plant physiologist, and was reluctant to be involved in the investigation, his success in helping the horticultural industry was equivalent to his success in controlling many fungal diseases.

Knowledge of McAlpine's contribution to mycology and plant pathology is generally known and appreciated because it is readily available in the literature. While the results of his investigation of the control of bitter pit are recorded in his Annual Reports published between 1912 and 1916, the story of the events leading up to the investigation, the harassment he endured during the investigation and the unjust and cruel treatment meted out to him at the end of it is not. It has mouldered away in forgotten files for over 90 years in out-of-the-way repositories. For these reasons, the greatest portion of this book deals with McAlpine's investigation of the bitter pit, which, while benefiting the apple trade, did great harm to him.

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Daniel McAlpine and The Bitter Pit

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