SOIL AND PLANT TESTING IN AUSTRALIA – THE PLAYERS, CLIENTS, METHODS AND ISSUES

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Initially, state governments and universities employed most soil and plant chemists in Australia, a trend that continued until the 1960s, when several fertiliser companies and a few others established diagnostic soil and plant testing services. Nowadays, state governments have lessened their role in diagnostic soil and plant analysis, while consolidation in the commercial sector is evident. This paper provides a contemporary overview of the status of soil and plant testing and testing services in Australia. There has been increased emphasis in the last decade on environmental assessments, the monitoring of soil condition, and the measurement of cadmium in food crops. Across the same period, Australian scientists made significant contributions to the methodology for assessing the presence of acid sulfate soils and their lime requirements. The Australasian Soil and Plant Analysis Council Inc. (ASPAC) endorsed an enhanced soil phosphorus buffer test, while there have been efforts in at least three states to cross-correlate existing empirical soil tests with one or more universal tests (particularly Mehlich No. 3) as a means of lessening the cost of diagnostic soil testing to end users. Apart from a rekindling of interest in plant analysis as a diagnostic tool for Australian sugarcane, the main advances in the plant chemistry area have been in multi-element measurement technologies.

ASPAC has made a significant contribution. In addition to organising an international symposium in 1999, it has organised several conferences and workshops on soil and plant analysis and related topics since 1993. Separate interpretation manuals on plant (1997) and soil (1999) analysis represent major international contributions, and ASPAC and its members have arranged and participated in several soil and plant interlaboratory proficiency programs to enhance measurement quality. The 1992 Australian Laboratory Handbook of Soil and Water Chemical Methods helped improve the standardisation and coding of procedures but much has still to be done to lessen the between-laboratories' variance in test results for soils and plants. A new Australian Handbook of Soil Chemical Methods is in preparation.