

Acid Sulfate Soil Assessment And Monitoring - A Simple Robust Kit For Use by Farmers And Other Land Managers – The Acid Test™

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Abstract:

Acid sulfate soil has proved to be a major problem for land managers in coastal eastern Australia. The identification and assessment of acid sulfate soils commonly is constrained by knowledge and equipment. Usually, farmers and other land managers are not in a position to carry out their own soil testing because of the complexity and cost of the testing equipment. In particular, the use of strongly corrosive agents, such as hydrogen peroxide (H₂O₂), to promote the oxidation of the iron sulfides to sulfuric with an associated decrease in pH poses a potentially serious safety risk to the uninitiated. In addition, the use of pH meters for measuring change in the soil pH has been limited by availability of inexpensive, robust units that can be used successfully outside the laboratory and by inexperienced operators. Also, the absence of testing components in a robust portable kit with clear instructions has been a further limitation in the assessment and monitoring of acid sulfate soil by land managers.

Essentially, farmers and other land managers who do not have an adequate economic base to engage consultants or advisers, have the potential to be disempowered from managing their lands in an economically and environmentally sound manner. There is a substantial level of concern in the community about the presence and impact of acid sulfate soils. This is accompanied by a high level of concern with the unavailability of an inexpensive, simple, robust kit that enables farmers and other land managers to assess and monitor their land for acid sulfate soils.

This paper reports on the development of a commercially available, robust acid sulfate soil test kit – **The Acid Test™** – which is being used routinely by farmers and other land managers in a trial in South east Queensland. Groups involved include Maroochy Land Care, CANEGROWERS, Queensland Government schools and individual land holders with grazing and cropping systems.

The soil test kit, marketed as **The Acid Test™** by Safcorp International, includes components to facilitate the oxidation of acid sulfate soils together with a robust pH meter and diagnostic information, has been used successfully by land managers during testing of the prototype. One of the safety features of the kit is that it does not include corrosive agents such as hydrogen peroxide. The on-farm studies have been complemented by extensive laboratory incubation studies (Saffigna et al 2002a,b).

Acknowledgements

The author acknowledges the encouragement and support from G. Colley of CANEGROWERS, E. Armstrong, G Griffith and S Griffith of Maroochy Land Care and C Traill of Maroochy Shire Council in relation to the development of the test kit. Particular thanks are offered to M Savimaki of Bli Bli who so willingly provided access to his cane farm for the initial assessment of the test kit.

References

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