

SOIL MANAGEMENT TRAINING — Continuing soils extension

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The benefits of recognising soil structural problems are many. On some farms soil diagnosis has become an integral part of management. The results are used to plan where cotton will be grown in the following season, which fields will require a rotation or tillage, also pointing to potential problem fields that may need more intensive management in terms of water and nitrogen.

The SOILpak project (Daniells et al.) has provided the cotton industry with a soil management package, however SOILpak is not a training tool: It is a decision support system that requires diagnosis of soil condition. This diagnosis of structural condition is often difficult for first time observers, however, the subtleties of soil structure readily become apparent with some hands on experience.

The companion project to SOILpak, "Soil management training for advisers to cotton growers" has made a good start in familiarising consultants and agronomists with structural recognition. The series of soils workshops for consultants and agronomists that started in 1990 in the Macquarie Valley (Abbot 1990) is now complete following the running of the Central Queensland workshop at Emerald in May 1992.

The argument for the commencement of the soil management training project was that there are not enough soil specialists to train the whole

industry in a reasonable time. The aim is to start a self—perpetuating training process by increasing the industry's knowledge and interest in soil structure. This is to be achieved by passing the skills of diagnosis on to a broader base within the industry, by using previously trained consultants and agronomists to aid the extension to growers.

The methods by which this is to be achieved:

- By providing a resource person to assist those previously trained at soil management workshops to extend soil diagnostic skills. The person assists in running mini workshops in cotton growing regions that aim to introduce growers to the recognition of soil structural features and soil management concepts. SOILpak is used for resource material. Flexibility is the key to these mini workshops that are held with small groups of farmers, with their advisers, when opportunities present themselves.

- By producing materials for training packages that can be used by district agronomists and consultants. At this stage they consist of:

Stereo viewers: to enable the 3 dimensional structure of soil to be recorded. Slide sets of pits with different structural features are being collated from areas throughout the cotton industry. As time progresses sets of slides will be built up that illustrate case histories of management options.

SOILpak pocket notes, a summary for the glovebox of pertinent points from the chapter soil pit observations.

Other sections of the package planned include course notes for "students" and "teachers", also a collection of soil cores (monoliths) showing various soil features.

Another important task of the project is to provide feedback on users comments to soil researchers. This feedback may eventually help to show where upgrades to the SOILpak manual are necessary.

In summary "Soil management training" complements SOILpak and "Soil management training for advisers to cotton growers". It aims to make the observation of soil structure an integral part of crop management. This is to be achieved by providing extension packages and giving backup to advisory personnel and consultants that they, in turn, can use to disseminate soils recognition skills throughout the industry.

References:

Abbott, T. (1990) Macquarie valley soil management workshop. The Australian Cottongrower **10** (4) 39—40.

Daniells et al (1992) SOILpak increasing the awareness of the soil resource (*these proceedings*).

Acknowledgments:

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