

THE SOILpak PROJECT, CURRENT AND FUTURE DEVELOPMENTS

*D.L. Larsen NSW Agriculture & Fisheries,
Agricultural Research Station Narrabri*

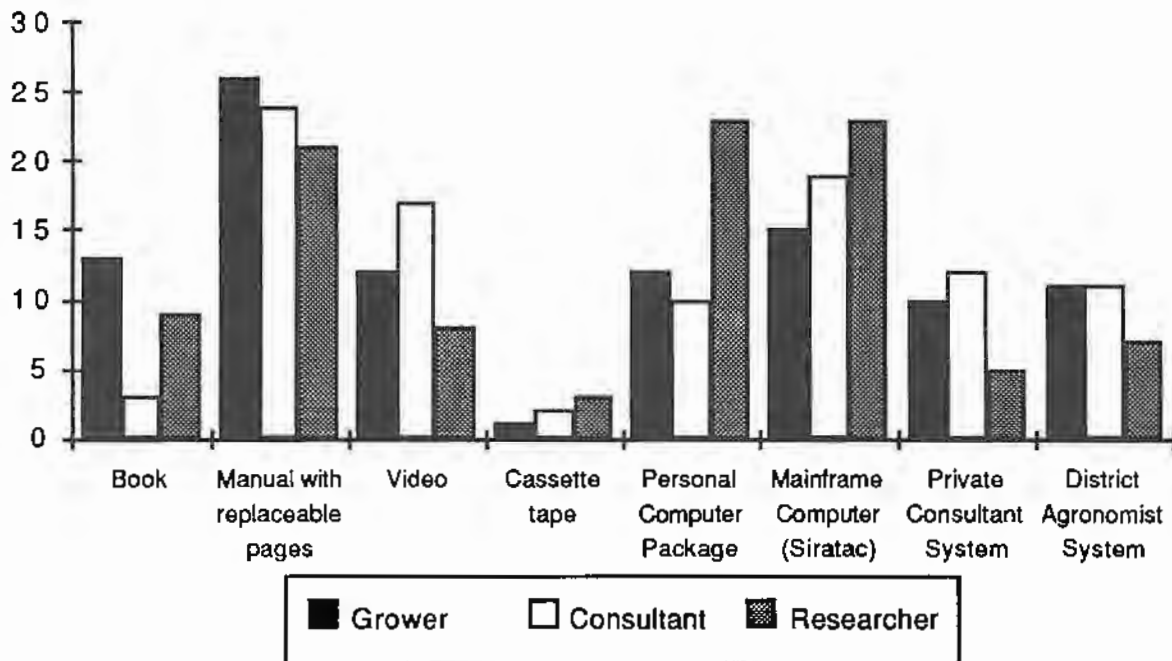
The SOILpak project so far has concentrated on the grey and brown cracking clay soils used for cotton production. The aim of the project has been to collate the vast amount of information available on these soil types into a usable form. Many papers have been written and submitted to reputable journals and a lot of information resides within peoples minds. The SOILpak team's aim has been to extract and gather the relevant information and present it in a single package.

Initially it was considered that the best method to extend the information was through a centralised computer system which allowed for easy and quick updating. A survey however, indicated that potential users felt that a loose leaf manual would be preferable (Figure 1), allowing for updating as more information became available.

Consequently loose-leaf is the form in which SOILpak has been produced. The loose-leaf form of SOILpak is also compatible with a number of Agfacts produced by the NSW Dept Agriculture and Fisheries that complement the information in the manual. Owners of copies of the manual have been asked to register to allow for updates to be sent as they become available.

The design of the manual allows end-users to utilise it for trouble shooting. Most of the chapters and especially those in the quick help section can be read as stand alone documents. References to other parts of the manual are included if the reader needs more background information.

Figure 1: Preference for Soil Management Package by Industry Groups - % of weighted replies.



Since this survey was originally carried out in 1987 there have been some changes in emphasis, especially in computerised extension to cotton growers and consultants. This involves a swing away from the central computer system to micro-computer based packages.

Computer technology will be used to augment the SOILpak package if the demand exists. Computer packages will concentrate on things that computers do well, number crunching, and data storage.

Programs for likely inclusion are a simple nitrogen rate estimation program, field tillage and soil analysis record storage and retrieval, a simple expert system for tillage options, rainfall and evaporation data, soil survey data & maps as well as a list of soil references that can easily be searched for title, author and key word.

It is intended that computer programs will be complementary to the LOGIC (eg HydroLOGIC) series of programs being developed by CSIRO.

An important part of the SOILpak approach has been the hands on training of manual users in the recognition of soil structural problems. With some of the gross soil structural formations the task of recognising them has been likened to teaching someone, who has never seen toast, how to cook it! It can take a lot of explanation to achieve the same result that a simple practical exercise can achieve in a short time. Because of this, one, or two day soil workshops have, and are being organised for consultants and agronomists in the major cotton growing regions of N.S.W.

As stated previously SOILpak is aimed at cotton growing and hence the management advice is based on the assumption that cotton is a major part of the rotation. The manual however, especially the chapters on diagnosis of soil structural condition and methods of limiting structural degradation, is applicable to any irrigation or even dry-land farmer on cracking clay soils.

Although the manual has had its first print run some changes may be made to the text as more information becomes available. Chapters yet to be finalised for the final print run of SOILpak for cracking clays include:

- Water-logging management in a wet summer
- Laboratory tests
- Other diagnostic methods (a project currently running will help clarify some of these methods)
- Avoiding soil problems
- Overview of Australian cotton soils
- Developing land for irrigated cotton
- Managing established irrigation areas

A logical extension of SOILpak for cracking clays is the production of another manual or supplement for cotton production on other soil types such as the red and hard setting soils which have a number of different and distinct problems associated with their management. This would mean most soil types used for cotton production would be covered by the SOILpak manuals

The most important aspect of the development of SOILpak has been the feedback that has come from contributors (over 30 farmers consultants and researchers) and users of the manual. The task of questioning users is on-going to ensure the relevance of the package into the future. The SOILpak team's thanks go to all those who have been involved in this process.