

Farmscape online: using the Internet for supporting interactions among farmers, advisers and researchers

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#### Abstract

FARMSCAPE online is exploring how the Internet could be used to support interactions among an existing network of farmers, advisers and researchers. Synchronous and asynchronous modes of Internet use are being trialled.

*Key words: Internet, action research, synchronous, asynchronous.*

The FARMSCAPE approach (Farmers', Advisers' and Researchers' Monitoring, Simulation, Communication, And Performance Evaluation) (McCown et al., this volume) features interactions centred on exploring management options, aided by simulation of production to show their effect on financial return, risk and cropland productivity. Important contributors to raising the interest of farmers in this form of decision support are:

- application of paddock-specific analysis made possible by local soil characterisation and monitoring,
- use of a flexible simulator, (eg. APSIM), which is competent in a wide range of crop and soil processes; and,
- combining complementary knowledge through discussions among farmers, advisers, and researchers.

Focus is now on how a service which retains these three characteristics might be sustainably delivered. The Internet offers possibilities for supporting such a service. Specifically "how", and "how well", are the main questions being addressed in the FARMSCAPE Online project.

FARMSCAPE Online is a web of interactions of different types involving different groupings of participants. Two different technologies are used. One is a web site, in which useful interactions are facilitated in a way that communicating parties do not need to be online at the same time (asynchronous mode). The second involves parties being online together (synchronous mode) in an Internet meeting with computer applications (APSIM, graphics, etc.) shared among geographically dispersed participants on their personal computers whilst discussing them using a conference telephone call.

*Asynchronous mode ([www.farmscape.tag.csiro.au](http://www.farmscape.tag.csiro.au))*

The 'library' is a searchable online collection of reference material related to elements in this research and consulting approach, to project activities, and to those aspects of farming being addressed. Sections in the 'library' include a current display, monitoring soil water and nutrients, simulating crop production, and evaluation. The 'current display' section has two components: an online newsletter and a scrapbook. The online newsletter (FARMSCAPE Insights) augments a quarterly printed edition which is sent to over 300 stakeholders. Five stories appear online at any one time, with a new article posted and the oldest archived every two weeks.

The 'scrapbook' is an online collection of pertinent articles from the popular press. These articles are either written about FARMSCAPE or judged to be of interest to FARMSCAPE collaborators and stakeholders. Both the newsletter and the 'scrapbook' serve discussion and interaction among project participants and provide efficient means of updating and disseminating information about project activities.

Experience from the FARMSCAPE project highlighted a demand among farmers and their advisers for a resource which provided "• a simple explanation of the key soil processes as a basis for learning, and practical guidance when making soil measurements to aid their decision-making." (1). In response to this a 'Soil Monitoring Handbook' was developed. The 'library' contains an indexed version of this handbook, and development of this as an interactive 'online' multimedia module for training and education is in progress.

Several other online modules are under development, using a combination of traditional instructional design methodologies to identify useful methods, and media for presentation and participative action learning.

### *Forum*

'Discussion' by responding to posted messages has real advantages for busy people. Various forums have been created to facilitate this, based on specific requirements of groups. A forum to discuss a project need was development of the online version of the 'Soil Monitoring Handbook'. Other forum topics will pertain to real farming in a timely way (eg. outlook for winter crops in a pending season) and will be instigated by advisers and farmers in the various groups collaborating in the project, eg. An important research objective is to observe and document forum exchanges in order to learn how well they work and how they might be improved.

### *APSIM support*

APSIM is a complex simulation package which requires ongoing support to its users. During its development, the need for efficiency in supporting APSIM was pre-empted by a philosophy of "do whatever it takes to be effective". As APSIM use spreads to advisers, physical distance becomes a more important factor in communication, and the cost efficiency of delivery of support becomes a major issue. FARMSCAPE Online is exploring how the Internet can be used to provide certain support, while making better use of available resources. An 'APSIM support' section provides: continually-updated soil water and nitrogen files weather files; crop and soil management files; facilities for problem feedback; training and installation support; an Internet meeting entry-point; and full APSIM documentat- ion.

### *Design Characteristics*

Software has been developed that customises the web-site for different groups of users, eg general public farmers, project team, collaborating agribusiness firms, etc., from single instances of component files.

### *Synchronous mode using an Internet locater server (ILS)*

Simulation-aided discussions about crop and cropland management is a key communication component of FARMSCAPE. Meetings typically consist of a number of farmers from a particular geographic district, often convened by an adviser/consultant and with an APSRU researcher running the simulator. Provision of a commercial service depends on the expertise of using the simulator being transferred to service providers.? This is taking place, but it will be a considerable time before such operators are fully self-reliant. The synchronous interaction mode in FARMSCAPE Online provides an efficient training approach. In addition it provides an effective means for tapping into the skill and experience of simulation specialists eg. by an APSRU researcher being present 'online' to provide support to an adviser conducting a face-to-face or online farmer group meetings.

Evaluation, as part of an action research mode, is central to improving what we do. It allows learning and adjustment in an ongoing way. The Internet is being trialled in two primary ways: testing asynchronous and synchronous modes of interaction using customisable and flexible methods to support interactions between farmers, their advisers and researchers.

## References

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