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# SMARTchoice

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## Introduction

This is an update on the Commonwealth funded SMART*choice* project. The project has the general aim of assisting land owners in the Upper River Valleys of North East Victoria deal with land use change. The project has part time staff involvement and is being coordinated by TAFCO Rural Supplies in Myrtleford.

This newsletter will review some recent project work and give you some other information on district activities.

## Vegetable Seed Production

A small number of local farmers are involved in contracted vegetable seed production. There are at least three locations in the district where specific onion varieties are being grown for seed production. One of the cooperating farmers has indicated that although there have been some issues along the way, the first onion seed crop went quite well. At the time of writing (January 17) harvest had just occurred.

*One district onion seed block. Photo taken with permission December 24 2008.*

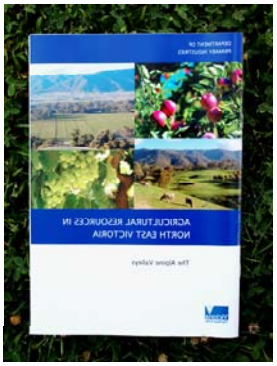
## Local Resource Book

Several potential investors looking for opportunities in agriculture have been 'attracted' to North East Victoria since the demise of the tobacco industry. Some of these companies have requested specific information related to the area.

To assist with this the Department of Primary Industries (DPI) has recently released a booklet which provides a snapshot of the 'Agricultural Resources in North East Victoria'. It has a focus on the Alpine Valleys. Included is detailed information on climate, irrigation capacity, soil characteristics, population demographics and current land use in the region.

The booklet has already been a useful reference for some 'visitors'. To complement this booklet DPI will be running a series of workshops in early 2009. These workshops will be advertised and will focus on understanding the agricultural capabilities of the Alpine Valleys and then working with farmers to analyse and develop their own business ideas.

To obtain a copy of the booklet or for further information on the workshops contact Ashley Paech, DPI Rutherglen, on (02) 60 304 566 or email ashley.paech@dpi.vic.gov.au



*Front cover of Agricultural Resources in North East Victoria*

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Soil Health Workshop Saturday 21 February 2009
(Organised by Chestnuts Aust Inc. and TAFCO as part of a Landcare Sustainable Practices Project)

Keynote Speaker: Dr Maarten Stapper

Other speakers include Andrew Smith & Don Cook

Registration forms available at TAFCO (57521800) or Chestnuts Aust.

CHESTNUTS AUSTRALIA Inc.

## Soil Moisture Monitoring

When tobacco was being grown in the area there was little or no soil moisture monitoring used. Locally, some grape producers, dairy farmers and an assortment of other horticulturalists had been using the technology. However, nowadays in most irrigated cropping situations the technology is widespread. Soil moisture monitoring can be a useful tool to indicate when a plant is under moisture stress or if irrigation water is 'passing' the effective root zone.

In an environment where the use of irrigation water is under close scrutiny it is timely to have a look at monitoring. Irrigators want to use their water as effectively as possible so they too will have an interest. The SMART*choice* project has a funded role to develop more local information on water use by installing soil moisture monitoring apparatus across a number of sites where land owners are developing 'new' crops.

Several soil moisture monitoring devices are available on the market. They essentially fit into two categories: those that measure soil suction and those that measure soil water content. They differ in terms of simplicity, cost, accuracy, and the labour required for installation and ongoing monitoring.

Irrometer Watermark™ Soil Moisture Probes are being used in the current study. These probes measure soil moisture suction. Soil moisture suction essentially is an indication of how much force plants must exert on the soil to extract water. Measurements of this suction *(tension)* are a good indication of when to water. They do not specifically indicate how much water to apply but over time the data collected can be used to predict crop water requirements.

The Watermark™ Soil Moisture Probes have been installed at 14 sites *(across five farms)* as part of the SMART*choice* project. Lucerne, walnuts, blueberries, broccoli, raspberries, blackberries, a herb species, summer fodder and blackcurrants are being monitored. In the early stages landowners and project staff will simply 'watch' the data and learn how to interpret it. As time goes on, and with the permission of the landowners, we would like to use the sites as a focal point to invite people with expertise in a particular crop to talk to farmers on-site. DPI's Dennis Watson and Martin Revrenna will have a role with the irrigation aspects of these farm-walks as well as crop specialists.

*In the current study, the Soil Moisture Probes are glued into the tips of 15 mm PVC pipe. The pipes are installed into the ground at various depths in and below the root zone of the crop. In the above instance the probes have been installed in a newly planted berry crop at 15, 30 and 60 cm.*

*The Soil Moisture Probes are then wired up to a transmitter that sits above the canopy of the crop but within 450 metres of the receiver*

*The transmitters 'send' the soil moisture suction readings back to a receiver (see above). Wireless technology is used to facilitate this. The receiver stores the soil moisture data. The landowner can come along to the receiver and check the soil moisture levels for any one of a number of transmitter sites that can be spread around the farm. Alternatively a laptop computer can be 'plugged in' to the receiver and a soil moisture graph can be downloaded. Irrigation and management decisions can then be made based on this data.*

*In situations where there is a large canopy such as in established walnuts (see above) the wireless technology (i.e. receivers and transmitters) cannot be used.*

*The same wireless technology is also being used locally in lucerne. In this instance the probes have been installed at 30, 60 and 90 cm depths.*

*With the current soil moisture monitoring demonstration in established walnuts, the soil moisture probes are attached to a stand alone unit (see above). Once again the landowner can physically look at the data on the unit or download it using a laptop computer. In the instance of the established walnut crop the probes have been installed at depths of 30, 60 and 120 cm*

## If you are interested in lucerne production:

Project staff plan to run some farm walks on lucerne production.

These opportunities will utilise 'visiting experts' and may be organised at short notice. Therefore it will not always be practical to do a general mail out.

If you want to be notified of 'anything' the project runs relating to lucerne let us know. This way we can call you at short notice if something is happening.

## Soil Health

Many district landowners are adapting to 'new' land uses. Crops include lucerne, berries, nuts, various vegetables and others.

Landowners are aware that 'new' crops have different soil needs to crops of the past. This is not only from a nutritional perspective but also relative to other soil factors such as pH, organic matter levels and even soil microbiology.

The Department of Primary Industries and SMART*choice* project staff have started working together to increase awareness amongst landholders on the importance of maintaining or improving various aspects of soil health.

The first soil health workshop was lead by Kristy Youman, a DPI Soil Health project officer. The session focused on soil structure and soil chemical characteristics. Landowners brought soil samples to the session for some basic assessments.

*Attendees at the first soil health meeting assessed some structural and chemical attributes of soil sampled from their own properties.*

Some attending land owners were surprised at the difference between the pH of topsoil (0-15 cm) and subsoil (30-45 cm). Whilst this type of variation is often seen, it may have implications for some deep rooted crops such as lucerne. The good thing is that pH anomalies can be amended over time. Many of the 'new' crops are deep rooted so subsoil characteristics can be significant. It is vitally important to be aware of your soil's characteristics. Former tobacco farmers were well used to regular programs of soil testing but that practice may need to be geared back up again for the 'new' land uses.

*Subsoil sampling can involve some hard work. In this instance in a lucerne paddock, soil was sampled to a depth of 45 centimetres*

There will be other activities related to 'soil health' that will be offered through the SMART*choice* project. These opportunities will be advertised. The project does have the capacity to arrange people with expertise in a particular crop or soil health discipline if there is a demand.

*The photo at the top of the page was supplied by Kristy Youman (DPI). It shows a test kit being used in the field to test soil pH.*

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## ABOUT TAFCO

The Tobacco & Associated Farmers Co-operative Limited (TAFCO) was formed in 1987 by tobacco growers to operate as an agricultural merchandising business to service tobacco growers and other primary producers.

Being a co-operative, profits are retained in the local communities and equitably distributed amongst members.
TAFCO has a broad horticultural base of 500 farmers throughout the Ovens, King, Kiewa and Beechworth areas - many operating multi-commodity farming enterprises. Over 600,000 $1.00 shares are held by members.

See our website for details on becoming a member.

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