

It's All About Water WORKSHOP

Improve agricultural and environmental water management based on knowledge of both plant stress and soil water status.

- Soil Moisture Measurement
- Introduction to the NPro and Software
- Weather Data Collection Systems
- Sap Flow & Stem Psychrometer Instruments
- Collecting and Using Data
- Soil Water Measurement & Monitoring
- Vineyard Environment Case Study

When: 13th - 15th July 2011
(Wednesday, Thursday & Friday)

Where: Sports Centre
Nuriootpa Recreational Park
Barossa Valley South Australia

Cost: Day One Only: **AUD \$600 (+GST)**

Day Two & Three Only: **AUD \$1500 (+GST)**
This fee includes a take home copy of the NPro operating software pre-loaded onto a netbook computer with cabling.

All Three Days: **AUD \$1800 (+GST)**
This fee includes a take home copy of the NPro operating software pre-loaded onto a netbook computer with cabling.



www.ictinternational.com.au/news.htm

Course Leaders

Dr Iain T Grierson
Director NPro
Field practitioner in soil moisture monitoring services



Dr Peter Cull
Director ICT International
Specialising in soil moisture measurement and the latest environmental monitoring equipment



Mr K Fox
Director Braeside Programming
Computer programming specialist



Dr Michael Forster
ICT International
Plant Scientist specialising in field measurement technologies for plant water use and plant growth



Course Outline

The course will be held over three days and is programmed as three separate information areas.

Day 1 Morning Session

Overview of direct plant based methodologies including, sap flow, plant water potential, porometers, leaf wetness, plant temperatures, infra-red thermometers, dendrometers and their application to plant water monitoring.

Weather data collection systems with a focus on low cost systems with Internet connectivity suitable for irrigation scheduling.

Afternoon Session

A detailed explanation of sap flow and stem psychrometer instruments and their application to field based plant water use monitoring and irrigation scheduling. Including field installation and data capture by participants.

Day 2 Morning Session

Introduction to the terms and definitions involved in soil water measurement and monitoring, field capacity, refill point, wilting point, capillary and hygroscopic water, the effect of soil texture, water movement through the profile, infiltration and drainage. Also soil water potential and the relationship with soil water content.

Methods of measuring and monitoring soil water content and potential. Techniques such as tensiometers, capacitance probes, standing wave probes, neutron moisture meters their applications. strengths & weaknesses, accuracy and costs.

Afternoon Session

Introduction to the NPro software, brief overview of functions and capabilities, the use of some vineyard case studies to illustrate capabilities.

Day 3 Morning Session

All you wanted to know about the neutron probe but were afraid to ask? How does it work, radiation safety, site locations, spatial variability of soil moisture data.

Collection of data in the field using the neutron probe and Diviner 2000. This includes downloading and characterisation of the data using the Npro software.

Afternoon Session

Soil moisture measurement, using the vineyard environment as a case study. The grape and wine industry is a prime example of one of these horticultural industries. Grape growers like many orchardists are faced with water restrictions becoming ever more stringent and processors requesting and accepting fruit of a particular quality often only attainable with proper irrigation management.

Who Should Attend

- Technicians and environmental officers who require hands-on, field orientated skills for the investigation and management of water monitoring in both soil & plant environments.
- Community, environmental, educationalist and agriculturalist involved in monitoring and teaching agricultural and environmental sciences.
- Managers, planners and policy staff using field water monitoring equipment.

Accommodation

Attendees are to arrange their own accommodation from a wide variety of hotels, motels and self serviced accommodation within walking distance of the venue.

Help and information regarding accommodation can also be obtained from the Enpro administration staff at 0412 500 278.

Course Fees

Day One Only: **AUD \$600 (+GST)**

Day Two & Three Only: **AUD \$1500 (+GST)**

This fee includes a take home copy of the NPro operating software pre-loaded onto a netbook computer with all cabling (USB & RS232) for the immediate downloading and displaying of soil moisture data from a Neutron Probe or Diviner 2000.

All Three Days: **AUD \$1800 (+GST)**

This fee includes a take home copy of the NPro operating software pre-loaded onto a netbook computer with all cabling (USB & RS232) for the immediate downloading and displaying of soil moisture data from a Neutron Probe or Diviner 2000.

Registration

To Register please contact one of the course leaders from the information provided below and obtain a Registration form/tax invoice.

*NB Attendees will need to prepare for collection of data in the field eg sunscreen, hat and strong shoes required.

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