

*Thankyou to Dean and Rebecca Arnaboldi of Ightham*

*Station for opening their property*

*and giving their time for  
this information day.*

## Upcoming Events Desert Channels Qld

### Weedspotters Workshops

Desert Channels Queensland is holding a series of Weedspotters Workshops across the region over April and May. This workshop will provide the practical skills and background knowledge for weed collection. Techniques will include:

- What to collect
- Labelling and descriptive information
- Safety and hygiene issues
- Handling plants during collection
- How to pack a plant press
- Drying specimens
- Packing and posting specimens

For more information contact Ron Beezley on ph 07 4652 7827 mobile 0428 580 629 or email [ron.beezley@dcq.org.au](mailto:ron.beezley@dcq.org.au).

### Blackall Innovations Forum

Tuesday 21 April, Blackall Cultural Centre 10am - 6pm

These days we need to think of innovative ways to improve our bottom line! Desert Channels Queensland, The Blackall BestPrac Group and Grazing Best Prac invite you to participate in the inaugural Blackall Innovations Forum to showcase the successes in the region for NRM practices. Presentations and displays will include:

- Gross margins, cattle and sheep
- Water and fencing development
- Satellite pasture monitoring
- Medicated water units
- Rotational grazing
- Remote water monitoring - telemetry
- Wild dog control
- Property mapping/GPS
- Managing depression
- And much more

To request a flyer or for more information contact Colleen James on ph 07 4652 7826 mobile 0428 580 998 or email [colleen.james@dcq.org.au](mailto:colleen.james@dcq.org.au).

### Coming soon - 3 Cs Carbon and Climate Change Info Days

As a grazier how does climate change affect me? Industry experts clear up some of the myths surrounding carbon and climate change. Learn more about these topics and take the opportunity to get your questions answered.

# Soil Information Day Friday 20 March

## Agenda Ightham Station

9:00am	Smoko
9:30am	Ray O'Grady - It's time to focus on the importance of soil health in pasture production because 'we did not inherit the land from our ancestors - we are borrowing it from our children'.
11:30am	Peter Muller - Soil properties and Peter Burger rainfall simulation, Site One.
12:30pm	Lunch
1:00pm	Ray O'Grady - Understanding the grazed ecosystem to build a healthy soil, using regenerative grazing management.
3:00pm	Peter Muller - Soil properties and Peter Burger rainfall simulation, Site Two.
4:00pm	Talk to experts about your soil samples

# What management decisions based on soil type can improve my ground cover and how does soil type impact on pasture production?

Ray O'Grady is a pasture agronomist and specialist in managing soil health. Ray has a wealth of experience in conventional and regenerative farming and specialises in managing soil health with a thorough knowledge of soil carbon and methods of improving carbon cycling. Ray has worked with innovative landholders to implement regenerative land management techniques that enhance biodiversity, increase biological activity, sequester carbon, activate soil nutrient cycles, restore water balance, improve productivity and create new topsoil.

## Session One

**It's time to focus on the importance of soil health in pasture production because 'we did not inherit the land from our ancestors - we are borrowing it from our children'.**

- Introduction to soil health
- Learning from the legacies of the past
- Dirt: The erosion of civilisations
- Sustainability and the triple bottom line
- The way it all works - the carbon cycle and soil carbon

## Session Two

**Ray O'Grady - Understanding the grazed ecosystem to build a healthy soil, using regenerative grazing management.**

- The rhizosphere
- Troubles in the rhizosphere.
- Plant exudates in the rhizosphere
- The grazed ecosystem
- Mycorrhizae and grazing management
- Effect of mycorrhizae on pasture growth and phosphorus uptake
- Regenerative grazing that builds soil carbon
- Microbial nutrient cycling

NRW's leading soil scientist Peter Muller has over 20 years soils experience throughout Australia with a wealth of knowledge of soil types and their properties that affect pasture production in central Queensland.

NRW field scientist Peter Burger will be demonstrating filtration, ponding and run-off characteristics of various soils with the rainfall simulator.

## Paddock Session Field Site One

The soil at this site is a deep, hard setting, brown, non-cracking clay soil that had a mixed brigalow and eucalypt forest of brigalow, blackbutt, and poplar box with some scrub species such as bauhinia and wilga.

- Deep soil (>1.5 m) has formed from transported material.
- Weakly structured, hard setting topsoil that surface seals.
- Surface soil pH is acidic (6.1), neutral to alkaline subsoil (pH of 7.7 to 8.9).
- Subsoil is non-sodic with low salt levels that indicates water moves through the soil.

- Non limitation to plant rooting depth = 1.5 m.
- Medium clay content (45%) with high water holding capacity of 140 mm.
- Moderate fertility - moderate phosphorous and nitrogen, but low organic carbon.

The pasture at this site is dominated by buffel grass that has been sown after clearing the original native vegetation.

## Paddock Session Field Site Two

The soil at this site is a thick, sandy surfaced duplex soil with a structured clay subsoil. The vegetation is a Poplar box - false sandalwood forest. Its main features are:

- Deep soil (>1.5 m) formed from transported material.
- Thick (0.4 m) fine sandy surface soil.
- Well structured, red clay subsoil.
- Surface pH is neutral to alkaline (pH 7.5 to 7.9) with an alkaline subsoil (pH 8.6 to 9.4).
- Lower subsoil is sodic (dispersive) slowing water movement causing salts to build up in the lower subsoil.
- Low to moderate subsoil salts does not limit rooting depth.
- Good water holding capacity of 120 mm.
- Low fertility with low levels of phosphorous, nitrogen and organic carbon.

Original native grasses are low quality wire grasses. The poplar box forest has been cleared and sown to buffel grass.

## Paddock Session Field Site Three

This soil is a weakly cracking, grey clay soil with melonhole gilgai that has formed on a floodplain with gidgee and dogwood vegetation. The main features of the mounds are:

- Crusting surface soil with a thin, weak surface structure.
- Strongly sodic subsoil limits water movement through the profile.
- Saline subsoil limits the rooting depth to 0.5 m.
- Moderate water holding capacity of 85 mm.
- Surface soil and upper subsoil pH is alkaline (pH 8.1 to 8.8), lower subsoil is mildly acidic (pH 6.6 to 6.7).
- Higher fertility as it is an alluvial soil - high phosphorous and nitrogen, and highest level of organic carbon recorded.

The pasture at this site is dominated by buffel grass that has been sown after clearing the scrub vegetation.

## Your soil sample analysis

- Talk to soil experts about your samples
- Run your soil samples through the rainfall simulator (number of samples analysed subject to time and water availability).
- pH and salt content testing

***From a ground-cover point of view, what are the issues, limitations and benefits associated with a particular soil type?***