

# ***Trials and tribulations on Lower EP***

2006 was a tough year to establish a water use efficiency trial on lower Eyre Peninsula but despite the lack of rain the LEADA Group produced some valuable information.

Established last year, the LEADA Group aims to address specific issues faced by graingrowers on lower Eyre Peninsula. Following the establishment of a committee chaired by Koppio farmer, Kinglsey MacDonald, and a meeting with Prof. Tim Reeves the High Rainfall Zone Coordinator for Southern Farming Systems, the Group decided a trial to tackle soil constraints was required. Non-wetting sands, falling soil pH, poorly structured and sodic clay subsoils and ironstone soils all present limitations to water use efficiency.

Three trial sites located at Koppio, Marble Range and Ungarra were chosen to represent the primary soil type and rainfall combinations in this area. Soil variability at each site was mapped using EM38, with soil sampling to ground truth the maps, and identify and measure subsoil constraints. Soils were tested to 50cm for nutrients, pH and exchangeable cations, the later is an indicator for salinity and sodicity.

Project treatments were tailored to each site, with the remainder of each paddock managed by the grower.

At the Koppio (Av. GSR 380mm, 2006 GSR 207mm, ironstone over poorly structured clay subsoil) and Marble Ranges (Av GSR 426mm, 2006 GSR 262mm, poorly structured subsoil) sites acidity and water logging were identified as the key limitations. A range of deep ripping treatments using a modified Yeomans plough set-up with five tines at 60cm spacing were applied together with surface, shallow (30cm) or deep (50cm) placements of lime and/or nitrogen, phosphorus and trace elements.

Similar treatments were applied at Ungarra (Av GSR 275mm, 2006 GSR 140mm, shallow sand over sodic clay) but ripping was limited to 40cm and lime treatments were replaced with a surface application of 5t/ha gypsum.

“We will continue to monitor the sites to evaluate on-going benefits from these treatments,” explained Kieran Wauchope, Coordinator of LEADA, on behalf of Rural Solutions SA.

“Low rainfall was the over riding factor that limited crop responses to our treatments in 2006 but we did see improved root growth and at the Marble Range site a 0.45t/ha yield improvement.

“At this site we also recorded a protein response to previous surface applications of lime; all of these responses need further investigation.”

At the Ungarra site low potassium levels were recorded and these could be affecting crop yields.

LEADA wishes to acknowledge the support of the Department of Water Land and Biodiversity Conservation and Rural Solutions SA for their support with this trial work. The Group is also delighted to report the establishment of their new, two hectare, trial site at Cummins supplied by ABB Grain Ltd. Work at the site is supported by a range of local and national, government and commercial organisations including SARDI who have sown 400 plots of 117 varieties of wheat and barley.

For more information contact Kieran Wauchope 08 8688 3409.