

## Far Northerners Making the Most of Rainfall

While much of southern Queensland has been inundated by massive rainfall events, the far north has had an unusually dry wet season. This can be confirmed by John and Cathy Colless who are successful graziers based on Wetherby Station north of Cairns. John said rain has been scarce this year so water infiltration during a rain event is particularly important. John Colless said over the years some paddocks had become compacted leading to poor water infiltration. John and Cathy want to make the most out of the rainfall that falls on the property. Previously they have worked with Northern Gulf Resource Management Group (NGRMG), a regional group supporting sustainable land practices and learnt that keyline ploughing was a great way to reduce compaction therefore increasing water infiltration and by its design making better use of rainfall events and nutrients.

The Colless's engaged the services of Trevor Parker and Kristjan Sorensen from NGRMG to develop a keyline ploughing plan for the property. Trevor and Kristjan marked out the keyline for each paddock to guide John's ploughing. Kristjan said with such an unusually dry wet season, keyline ploughing is a great method to better utilise rainwater, reduce compaction, improve infiltration, keep nutrients on the property by reducing run-off and improve soil health. Also with a simple attachment to the plough, seeding and the addition of soil amendments can be done in the one pass. This was important as John's paddocks had become grass dominant and needed some legumes such as Stylo to give his pasture a much needed lift.



**Picture1** above: Trevor Parker marking out the keyline plough line.

So what is keyline ploughing? Keyline ploughing founded by P.A. Yeoman, is a method of ploughing using a pattern based on the natural topography of the land. Classical keyline ploughing uses a plough designed by P.A. Yeoman which aerates the soil with minimal disturbance and without destroying its structure. This is important for soil health and to prevent erosion. Essentially keyline

ploughing improves water infiltration, improves soil health and moves water from the gullies to the ridges thereby keeping rainfall and nutrients on the property and minimising erosion.



**Picture 2** above: *An example of the keyline plough lines which has lifted and aerated the soil with minimal impact on soil structure. This reduces nutrient and water loss by improving water infiltration, reducing run-off and directing flows away from the gullies.*

The essential basis of keyline ploughing is a detailed topographic map which allows identification of the keypoint. The keyline ploughing pattern can then be planned based on the keyline of each hill slope, so directing precious water to the ridges. Trevor Parker said “a topographic map containing farm infrastructure is an essential component for any farm planning exercise”. Graziers in the region are utilising NGRMG’s mapping services to improve production, improve soil health and to better utilise rainwater. They are using this mapping and extension service to design a keyline plan for their property so as to better manage their water and soil. Trevor Parker said keyline is not just about ploughing but much more and if a new farm is being developed, keyline principles would be an essential planning tool to locate fences, contour banks, roads, irrigation infrastructure, buildings and dams but first of all you need a good topographic and infrastructure map as a basis to design your plan.



**Picture 3** above: A topographic map containing farm infrastructure which is an essential tool for farm planning and keyline design.

Contact Trevor Parker or Kristjan Sorensen in NGRMGs Mareeba office 40921088 for more information.