

Soil renovation in practice with Geoff Fosbery – ConsultAg Dongara



Soil Renovation in Practice



Welcome



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Four “gutsy” farmers willing to share their experiences -:

Brady Green - Yuna

Simon Wallwork - Corrigin

Mark Pearce – Tarin Rock

Bob Nixon - Kalannie



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In 37 years of working in agriculture this is my third “FAD” of deep ripping!!

Researchers tend to focus on one or two variables so they can define the reason for a problem rather than applying it to the various farming systems.

These farmers will discuss how they integrate their multiple soil renovation activities into their farming systems.

Our goal today is to make this the third time “lucky” for deep ripping and other soil renovation techniques!!

ASK QUESTIONS AS YOU THINK OF THEM AND REMEMBER THE “DUMBEST” QUESTION IS THE ONE NOT ASKED!!!



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At the end of our discussions I need you all to vote on -:

Who amongst our “GUTSY” four farmers has the biggest/worst soil amelioration problems?

I suggest after each discussion you score them out of 10.



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End of first section



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Hypothetical ONE -:

Merredin -:

Acid yellow loamy sand

Top 10cm = Clay 17%/silt 3%/sand 80%,

pH (CaCl₂) 0-10cm = 5.2 / 10 -30cm 4.3 / 30-50cm 4.0 / 50 – 80cm 4.3,

hardpan 15cm to 50cm deep.

Average wheat yield 1.4t/ha.

Ryegrass and radish bad in “patches”.



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Renovation year program -:

1. Lime applied @ variable rate 0 to 4 t/ha @ \$50/t spread.
2. Plozza plough at 20 to 30cm.
3. Spread seed for ground cover and harrow – 30-40kg/ha cereal +/- pulse.
4. Deep rip to >500mm with a roller except on sub soil sodic clay and sheet rock patches.
5. Double knock the cover crop out at 30 to 40 cm height.

Full contract total cost incl fuel = \$250 to \$290/ha

Year 1 = 500kg/ha TT canola increase in yield (0 to 1.0t/ha) = \$300/ha

Year 2 = 650kg/ha wheat yield increase (300kg/ha to 1.2t/ha) = \$180/ha



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Summation -:



Define the constraints -:

1. Non wetting
2. Sub soil compaction
3. Sub soil acidity
4. Sub soil sodicity
5. Resistant weed seed bank
6. Nutrient unavailability – trace and macro elements



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Summation -:



Measure to manage -:

1. **Non wetting – MED or a bit of water in the paddock**
2. **Long term experience – map the low, medium and high production areas.**
3. **Sub soil constraints – Soil test pH, Al, EC etc**
 - Radiometrics – Thorium/Potassium/Uranium/Aluminium**
 - Penetrometer**
 - EM 38**
4. **Aerial photography – Google earth**



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Thank you all for your contributions



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