



# LOCKIER RIVER

## Property Profile

**Name:** Peter and Belinda Horwood

**Annual Rainfall:** 380 mm

**Soil Types:** Sand/ Loam

**Enterprises:** Broadacre Cropping

## Background

Peter and Belinda Horwood have been farming at 'Lockier River' for more than four decades. Their farm is primarily comprised of sand plain soils, which come with their own unique set of soil constraints.

Currently, the Horwood's soil sample around 20% of their farm every year on a rotation. These are taken up to 50 cm with about 5% of sites taken to one metre. Comprehensive soil tests are taken on the surface and top layers and others are in 10cm increment. These are primarily testing for N, P, K and pH.

Lockier River also experiences a number of soil constraints that vastly limit production, these include low nutritional value, non-wetting soils and further poor sands that are low in productivity due to their nature.

The Horwood's participated in the National Landcare Program's Smart Farm Small Grants Soil Extension Project through the Mingenev Irwin Group (MIG), where they wished to further explore their property's soil potential.

## Soil samples

Through CSBPs NDVI system, MIG and the Horwood's identified two focus areas across a single paddock on 'Lockier River'. These areas were high and low production zones.

From there, the MIG team sampled the sites, with multiple cores taken to a depth of 60 cm across the two locations, at 0-10cm, 10-20 cm, 20-30 cm, and 30-60 cm increments. These were then compared to one another to identify the constraints that the soils held.

Each site was tested using a full comprehensive soil test in the top 10 cm, and standard tests at depth, mainly exploring pH, Nitrogen, Phosphorus, Potassium, and Salinity.

Over time, the Horwood's have undertaken a number of soil amelioration techniques. To manage the pH, the Horwood's have applied large amounts of lime. They have applied N and K through Potash as well as putting K out separately to N, they have undertaken deep ripping to manage compaction.

Although he didn't have exact figures, Peter estimated that these constraints were reducing production.



## Results from the samples

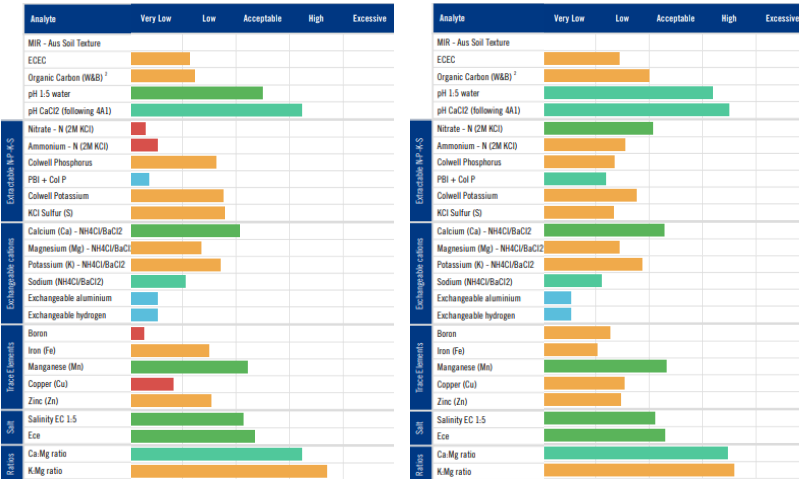


Figure 1 & 2: Results from Site 1, 2023 (left), compared 2024 (right)

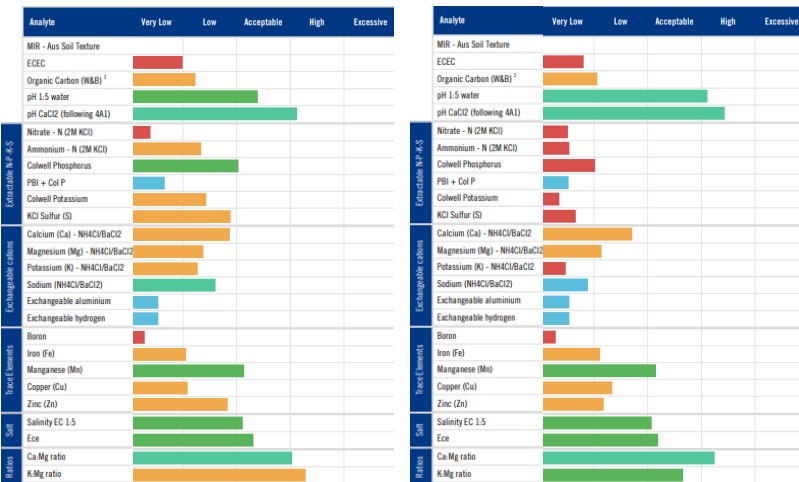


Figure 3 & 4: Results from Site 2, 2023 (left), compared 2024 (right)

## The main constraints

The main constraints that Peter mentioned for his property had historically been pH and understanding the critical levels and application of Potassium. The Horwood's also mentioned that they had observed decreased yield and decreased nutrition due to roots not being able to get down deep enough into the soil profile.

After reviewing the results, one aspect of interest was the Predicta B results. These results help to identify which pathogens may pose a risk to crops before seeding and are useful to determine if and what significant soil and stubble-borne diseases may be existent in the soil. Understanding this gives landholders the opportunity to make informed crop and variety decisions, optimise paddock management, and minimise yield losses.

When asked about his interpretation of the results and recommendations provided, Peter stated: *“Some recommendations that have been given are different to what is given by our usual fertiliser company, and will go back to challenging both them and me, why the results are different.”*

## The next chapter

Peter is continuously looking at agricultural research. He aims to find it, read it, and understand how it relates back to his own farming system. This has been a continual process of education, research and understanding throughout his farming career.

Although pH has been an ongoing problem at Lockier River, Peter has managed to correct this over time with lime application. Potassium levels running low have also been an issue and he has been working on building these back up in the soil. The Horwood's have also spent time learning where the acceptable levels are and how to finely walk the line between increasing and decreasing K levels this has led to him understanding the critical levels and application of Potassium on his property.

In the future, The Horwood's aim is to sort out any non-wetting issues in their soil and mitigate any erosion issues. They aim to do so by ensuring their soil is not left bare enough to erode.

When asked if he thought soil testing was important and if so, why, Peter replied: *“It is something that you can control. In agriculture there are many things that you can and cannot control, this is something that you can control to improve productivity and identify deficiencies. If you don't identify it, you may be putting money into something that is not needed.”*

The Horwood's also mentioned that in the future they will be looking to perform a fairly extensive soil testing regime testing to at least 50 cm.



Australian Government

National Landcare Program

