

# Soil pH Summary

## Ararat & Surrounds

### Local Government Area

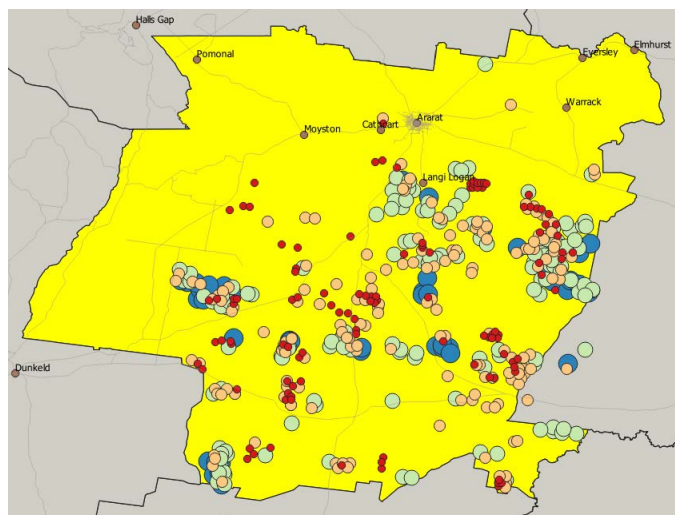


The Ararat Surrounds LGA sits within the Glenelg-Hopkins CMA, it is an area of 4211 km<sup>2</sup>, stretching from Pomonal and Elmhurst in the north to just south of Lake Bolac. Excluding data from paddocks with four or less samples, the dataset encompasses 16988 samples collected from 480 paddocks between June 2016 and June 2022.

Over the full dataset the average pH was 5.1 ranging from 3.8 to 8.6. When we break the dataset down to individual paddocks the average pH within a paddock ranged from 4.0 to 7.2. These paddock averages are shown in *Figure 1* with both symbol size and colour adjusted to show the variation in pH. In general, there is a spread of both low and high paddock average pH across the region with no specific trends in the results.

**TABLE 1. ARARAT SURROUNDS SOIL pH DATASET SUMMARY STATISTICS.**

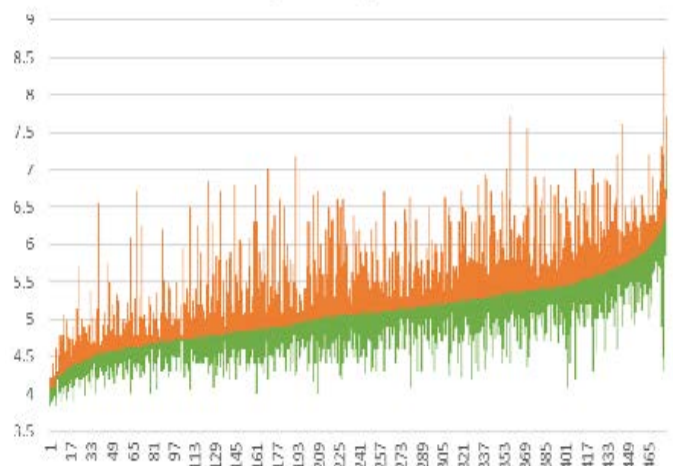
Paddock Average pH		pH variation in a paddock		pH CoV within a paddock	
Mean	Range	Mean	Range	Mean	Range
5.08	4.0-7.2	1.2	0.1-4.3	5.4%	1.0% - 21%



0-10cm pH<sub>CaCl2</sub>  
 ● 4.04 - 4.75 ● 4.75 - 5.15 ● 5.15 - 5.61 ● 5.61 - 7.17

*Figure 1.* paddock average surface pH for 480 paddocks across the Ararat region, where a paddock has a minimum of 5 samples.

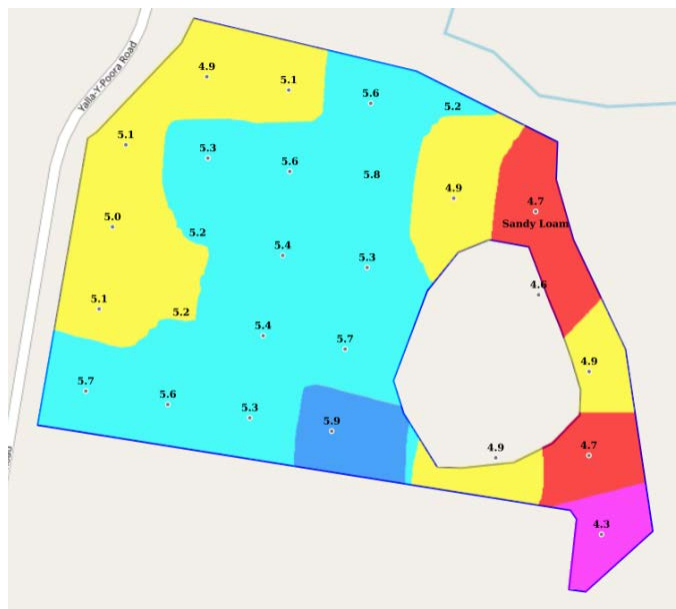
### WITHIN PADDOCK pH VARIATION



*Figure 2.* Soil pH data for individual paddocks sorted by paddock average pH. The green line is the minimum to average pH and the orange line is the average to maximum pH in individual paddocks.

## WHAT DOES AN AVERAGE Paddock LOOK LIKE:

A representative paddock was selected from this dataset for illustrative purposes, this 54 ha paddock was sampled in February 2017, with 27 samples collected (Figure 1).



■ Above 5.8 pH ■ 5.2 - 5.79 pH ■ 4.8 - 5.19 pH  
 ■ 4.5 - 4.79 pH ■ Below 4.49 pH

Figure 1. Representative paddock, from Ararat and surrounds LGA, soil pH.

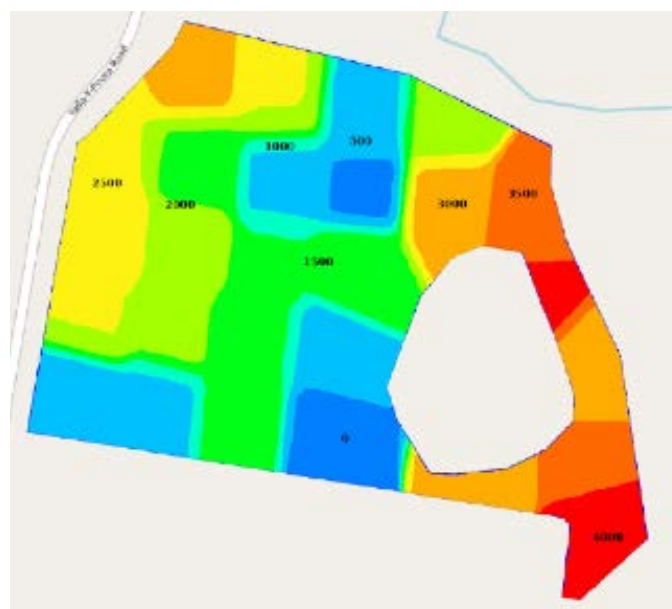
Summary statistics for this paddock's data are shown in Table 2.

**TABLE 2. REPRESENTATIVE Paddock, FROM ARARAT AND SURROUNDS LGA SOI pH DATASET SUMMARY STATISTICS.**

Mean	Standard Error	Median	Mode	Standard Deviation	CoV	Range	Maximum	Minimum
5.2	0.076	5.2	4.9	0.39	7.5%	1.6	5.9	4.3

The mean soil pH for paddock was 0.1 units higher than the regional paddock average, with a range of 1.6 units compared to the regional range of 1.2 pH units per paddock.

The total lime requirement calculated to raise soil pH to 5.8 was 99.9 T, an average rate of 1.9 T/ha, with variable rate spreading as shown in Figure 2.



■ 4000 kg/ha ■ 3500 kg/ha ■ 3000 kg/ha  
 ■ 2500 kg/ha ■ 2000 kg/ha ■ 1500 kg/ha  
 ■ 1000 kg/ha ■ 500 kg/ha ■ 0 kg/ha

Figure 2. Variable rate lime application recommendation map, based on a target pH of 5.8.

