Joe Vaughan from 100Hunts Vineyard on the Mornington Peninsula is a trail blazer for using compost mulch under vine and says that, “herbicide use has decreased by more than 50% in the vineyard as there is less weed pressure.”

In November 2014, a heatwave across Victoria gave us the opportunity to put the trials to the test and measure what was going on in the soil.

As you can see from the graphs on the right, the air temperature hit 41°C and the following measurements were taken from the soil probes, in particular soil temperature at the highest air temperature recording of 41°C.

Control row- soil moisture peaks at 25kPa and soil temp is 26°C. Too hot and dry, limiting biological activity.

The night irrigation does not soak the sub soil as it does in the composted rows, limiting water use efficiency.

Coarse compost mulch row- soil moisture peaks at 17kPa and soil temp is 23°C. There is plant available soil moisture and possible biological activity. The night irrigation wasn’t really necessary.

Fine compost mulch row- soil moisture peaks at 16kPa and soil temp is 22°C. Plant available soil moisture and biological activity. The night irrigation wasn’t really necessary.

In the first year of the trials, benefits from having a thermal layer of compost mulch was evident. The three graphs to the left show a rainfall event in the last week of April, 2015.

All 3 rows at this vineyard became waterlogged on 25th April 2015.

Within 24hrs, both fine and coarse compost rows began to dry out, whilst the control row remained waterlogged. In fact it remained waterlogged for over a week after the rainfall event.

The result is a decline in soil health with minimal soil biological activity possible under these waterlogged conditions. Plant health would also have suffered from wet feet.