

## Soil Testing For Vineyards

Results from soil samples need for components to be meaningful:

1. Correct and accurate sampling
2. Chemical Analysis
3. Interpretation
4. Practical Recommendation.

Your role as a farmer is vital in completing the first section. Soil samples taken incorrectly are difficult to interpret and may be a waste of money.

The most common mistake made when soil sampling vineyards is to take only the surface soil, maybe with a spade or a broadacre “pogo stick.”

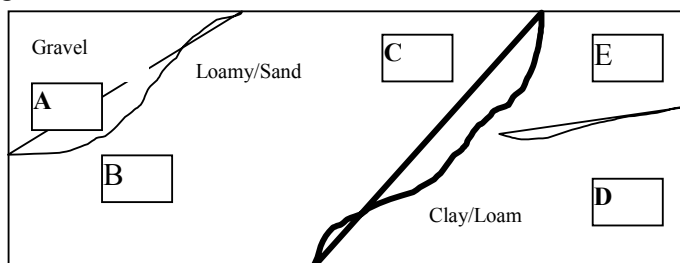
Samples for vines need to be taken specifically and carefully.

## NEW VINEYARDS

### SITES

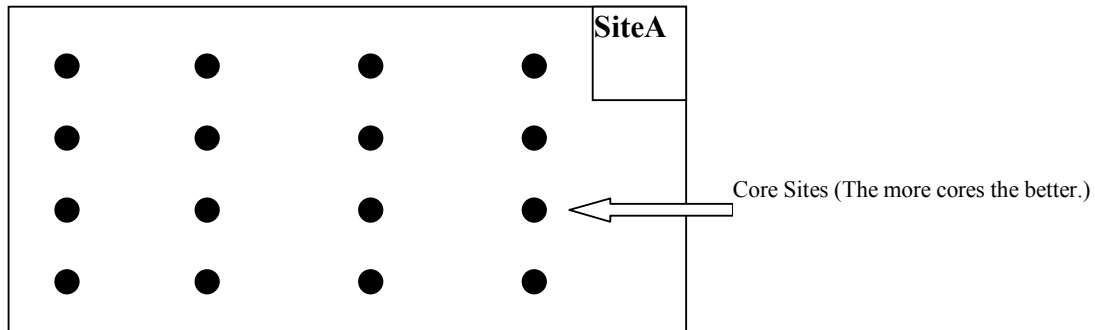
Grid sample the area to be planted. A number of samples over the entire area to determine soil type and nutrient status. (Fig 1.) The larger the area and the more changeable the soil type, then the larger the number of samples need to be.

Fig 1.



Take a composite sample from a number of areas within the sample site. (Fig 2.)

Fig 2.



## DEPTHS

Vines take nutrients from a much greater depth of soil than annual crops and pastures. They also grow during the summer when the topsoil is dry, and have feeder roots that are more likely to be found between 10cm and 30cm in depth. Samples for vines need to be taken in *separate 10cm intervals* down to a depth of at *least 50cm*.

This form of sampling will increase the number and the cost of analysis, however, when compared to the cost of fertilizer used, or the possible cost of lost production, the sampling cost is small.

## SAMPLING TOOLS

**Soil Augers:** There are two that are commonly used, although they may be hard to find to buy. They are the Jarrett Auger that will take 0-10cm core, and the Dormer (Gouge Auger) that will take up to a 50cm core. If using this sort of auger, care must be taken that soil from the top of the hole does not fall into the hole between cores.

**Pits:** A pit can be dug and samples taken from the sides with a spade. Make sure that the "slice" is even.

Care must be taken when using a spade that a "V" shape is not taken as this will bias the sample with more surface soil. It is also harder to control the depth of sample with a spade.

**Pogo Stick:** Surface samples can be taken with a "pogo stick" sampler. Suitable for the 0 – 10cm sample.

## **ESTABLISHED VINEYARDS**

1. Take sample within the active root zone.
2. Sample within fertigation wetting zones. Comparative samples from inter row could be interesting for recording the change in soil pH.
3. Sample to coincide with the peak demand from the vines – From just prior to flowering until 3 weeks after fruit set. Could sample as early as the end of the heaviest winter rains.
4. Take comparative samples within the same soil type where the vines show poor and good growth. This will provide some clues to the cause of the difference.
5. Soil sampling at this stage is useful for pH and salt levels. Petiole analysis seems to be a better way of monitoring nutrient uptake.

## **ANALYSIS**

Summit Fertilizers laboratory will analyse for a range of nutrients. The most valuable ones for vines are Phosphorus, Phosphorus Retention Index (PRI), Potassium, pH and Salt.

## **RECOMMENDATIONS**

You should take the analysis to an advisor. Landmark, Elders and CRT have specialist horticulturalists who can help.

Department of Agriculture and private consultants can also help.

Acknowledgements: Information is from “Monitoring Vineyard Soils” by Barry Goldspink (Dept of Ag – Midland) from his handbook “Fertilizers for Wine Grapes.”