

Marlborough Focus Vineyard

Nutrient Requirement Project

Methodology 2004-2005 Season

Aims

1. To determine vine nutrient requirements throughout the growing season and to perhaps challenge the current fertiliser recommendation practice
2. To assess nutrient use, in selected nutrient zones (5 rows by 4 bays), by collecting petiole and blade samples, and determining soil types and nutrient levels within the zone
3. To compare nutrient use across all three focus vineyards and benchmark these with the district soil test results
4. To measure trunk circumferences as a means of measuring vineyard variation and compare with soil descriptions

Nutrient Analysis

- 1. Soil Pits**
 - 4 holes were dug to 1m deep, on each focus vineyard block
 - Profiles and horizons were sampled, and described
 - The root depth was recorded
 - Samples were taken for nutrient analysis of each soil profile
 - Data collated and presented in spreadsheets
- 2. Blades and Petioles**
 - Samples were taken for analysis at various growth stages; 80% flowering and pre-harvest
 - Data presented in spreadsheets
- 3. Wood samples**
 - Samples of new and old wood, at pruning, were collected from the nutrient zones and analysed for nutrient content.
 - Data presented in spreadsheets

Note raw data presented yet to be compared and analysed

Trunk Circumferences

All you need is a tape measure!

- 1. Measure and record the trunk circumference for every vine on every 5th row**
 - Record the starting point (north or south end of row)
 - Record position data so the relative boundaries and bays can be aligned i.e. the number of plants that each 5th row is longer or shorter, than the other. (in case the block is an irregular shape)
 - Measure the circumferences, (10cm) below the head of every vine in an internode space (i.e. between trunk bud swellings).
 - Each measurement in millimetres records the presence of a plant.

- Mark on each row of data, the centre of the irrigation (a useful tool in aligning the data when collating the spreadsheet)

2. Collate data in a spreadsheet relative to vine position in the vineyard

- Ensure you enter the data in the direction you walked the row and recorded the data
- Four plants make up a bay
- The horizontal lines across the vineyard represent the alignment of the posts
- Line up the centre of the irrigation
- Look at the data range and decide on the boundaries for small medium and large trunk circumferences for your block

3. Colour the cells in your “aerial view” spreadsheet to provide a visual analysis of the data

- Click on format
- Select conditional formatting
- Select the data range for each criteria (i.e. the small, medium and large boundaries)
- Click on the format button in the communication box and select a colour to background that data set. Assign colours that are light for the small vines and darker for the larger vines.
- Click on add to select the next colour range
- Repeat. Up to three colours can be used any numbers outside of the sorted range will remain white
- The groupings of colours indicate the variation across the vineyard; this could be due to **soil type, soil depth, soil nutrition and soil water-holding capacity.**