The Australian Wine Research Institute

AUSTRALIAN Grape & Wine

Guidelines
Vineyard Sampling

# Standard Method for Sampling Grapes in the Vineyard for Assessing Berry Composition at Harvest

## Scope

This guideline document has been prepared with reference to IESP 5.0 – Standard Method for Sampling Grapes in the Vineyard for Assessing Berry Composition at Harvest. The scope of this document is to provide an insight into the standardised approach developed for sampling grapes in the vineyard for assessing berry composition at harvest for the determination of payment.

## Principals of achieving a good representative sample

The basic principles of achieving a good representative sample include:

- Sampling from multiple locations within a defined vineyard (block, patch, section, harvest unit or row).
- Incorporating pooled (consolidated) grape samples to ensure that analysis is representative of a defined vineyard block, patch, section, harvest unit or row.
- Incorporating enough grapes to ensure that at least minimum sample size requirements are met for specific grape analysis.
- Random sampling thus negating bias.

## Terminology

A vineyard 'block' (path, section, harvest unit or row) might represent a single variety, a particular soil type, or topographic feature that separates the area from the remaining part(s) of the blocks that create the entire vineyard planting.

A harvest unit is defined as a patch of grapes which may be harvested in the same day, which again may differ from the total vineyard area.

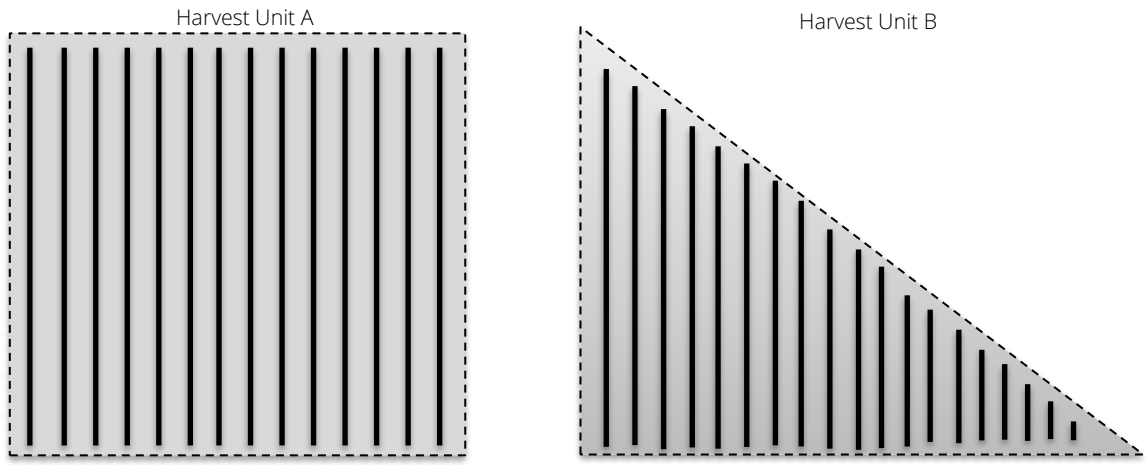


Figure 1: Harvest units are a series of vineyard rows with a defined system boundary. Harvest units can take different shapes and forms as identified above in Harvest Unit A and Harvest Unit B.

## Pre-Sampling Considerations

Key sampling principals are defined below:

- Sampling at harvest should be conducted through **whole bunch/cluster sampling**.
- Sub-blocks to be harvested separately should be identified prior to entering the vineyard.
- Samples at the end of the row, or at rows edge are generally not representative of the Harvest Unit.
- Aerial images of vineyards can be useful when designing a spatially representative grape sampling program.
- Samples should be collected as close to harvest as possible. **Sampling within 2 days (48 hours) before harvest is preferable**, however within 3 days (72 hours) is acceptable.
- Sampling should be delayed if there has been recent rain, heavy fog, or dew, or heavy irrigation within the proceeding 24 hours.
- **Prior to entering the vineyard**, establish a system for evenly distributed sampling, selecting a row and vine within a harvest unit/block/patch and develop a system for recording this position as to easily identify the location when in the vineyard. Weighting row lengths for irregular shaped harvest units could useful.

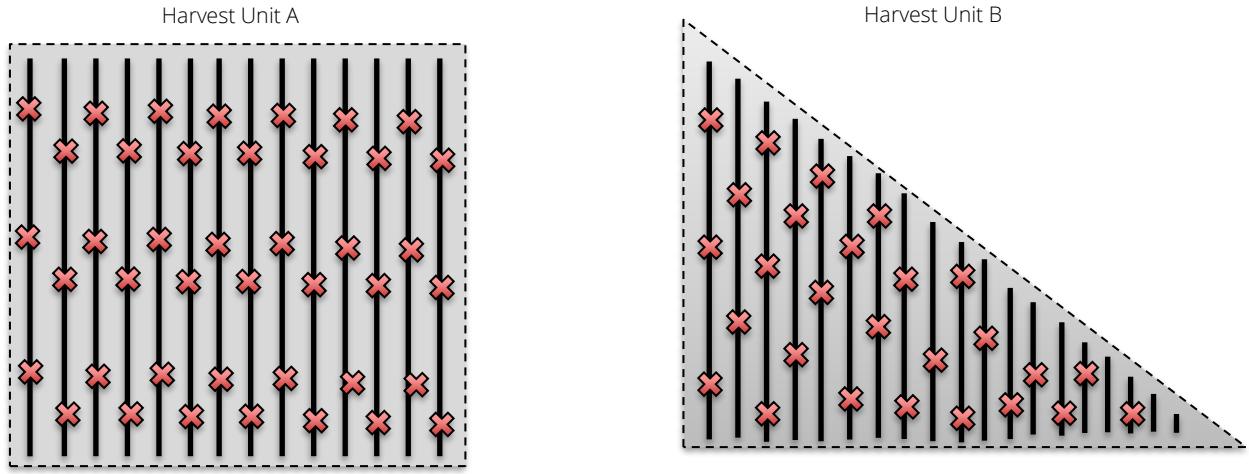


Figure 2: Establish a system for evenly distributed sampling within a harvest unit prior to entering the vineyard.

## Sampling

**20 whole bunch** samples per harvest unit or patch are required for Brix° and pH analysis.

**40 whole bunch** samples per harvest unit or patch are required for Brix°, pH, colour (anthocyanin mg/g) and titratable acidity (TA - g/L tartaric acid equivalents) measurement.

In the vineyard, when sampling, see details in Figure 2 for each sampling point:

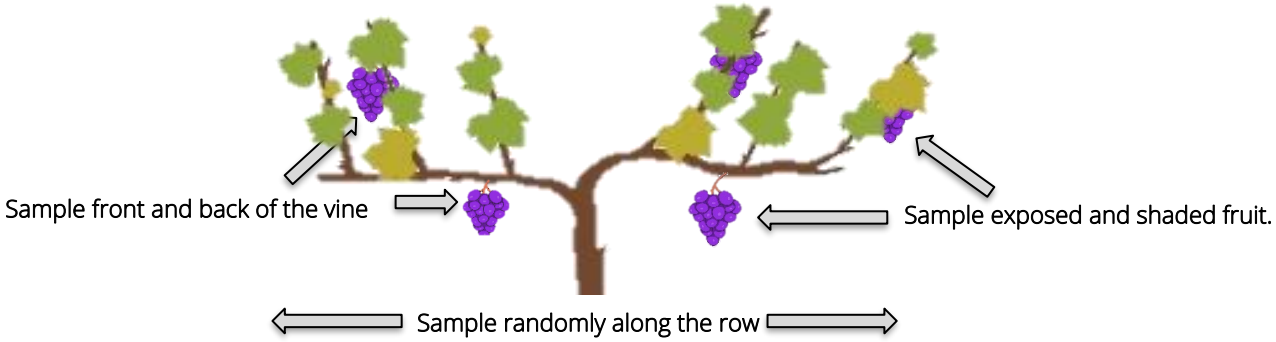


Figure 3: Principals for sampling at an individual point of a Harvest Unit

- Samples should be kept at a constant cool temperature below 10°C (i.e., in an esky) and clearly labelled with the date, variety, vineyard identification (including block/patch/row if necessary) on the container.
- Samples should be stored at less than 15°C and preferably between 5-10°C prior to and during transport and up until the commencement of processing for analysis.
- Samples collected in the morning period should ideally be processed for compositional analysis later that same day within the laboratory. If samples cannot be processed on the same day as collection, samples should be stored at 1 - 4 °C until the following day for processing.

## Analysis

**Samples should not be processed after more than 2 days since the period of sampling**.

At the point of quality measurement, to eliminate bias from the sample, when selecting fruit for measurement, most or all berries are to be removed from each of the bunches and then mixed before randomly selecting a subset for processing.

## Acknowledgement

This document was prepared with the guidance and support of Australian Grape and Wine (AGW) and representative industry bodies.

## References and further reading

Refer to IESP 5.0 - Standard method for Sampling Grapes in the Vineyard for Assessing Berry Composition at Harvest for detailed references.

## Contact

For further information, please contact:

Eric Wilkes – Group Manager Commercial Services

**Phone** 08 8313 6600 **Fax** 08 8313 6601 **Email** eric.wilkes@awri.com.au

**Address** Wine Innovation Central Building, Corner of Hartley Grove & Paratoo Rd, Urrbrae (Adelaide), SA 5064