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MURRAY VALLEY WINEGROWERS' INC

SUNRAYSIA & SWAN HILL BUD FERTILITY PROJECT

4th July, 2005

Introduction:

Dissection of grape buds to determine bud fertility was developed by CSIRO and the Victorian Department of Agriculture during the early seventies, as a tool to assist grape growers to regulate cropping levels for their grapevines. Dissection of grape buds during the Winter period was initially used by the Dried Grape Industry to provide growers with information to assist in determining spur, cane and bud numbers to leave on grapevines to achieve desirable yields of good quality grapes.

During recent years, this technology has also been adopted by many Tablegrape and Winegrape growers. Due to the extensive and costly operations required to produce moderate yields of high quality tablegrapes, growers have the ability to regulate bud numbers to assist achieve this.

More recently, with the changes in the Winegrape industry, with the essential move from production of high volumes, to producing acceptable yields which meet the quality specifications required by the Winery Customers, many Winegrape growers are also using bud dissection to assist with crop regulation.

Bud Dissection Project:

The Murray Valley Winegrowers' Inc are continuing with a project which was developed last season for Sunraysia and Swan Hill Winegrape growers which may assist by producing bud fertility information on a district basis. This information may then be applied to individual properties and varieties throughout Sunraysia and Swan Hill. This will also provide an opportunity for research into the issue of bud necrosis, and the variation in varietal incidence seasonally as well differences which may occur between districts.

Methodology:

Bud samples of Chardonnay and Shiraz were collected from a total of twenty-one sites throughout Sunraysia and Swan Hill.

Five samples each of Chardonnay and Shiraz were collected both from sites in Sunraysia and Swan Hill districts. All sites were considered to be fairly uniform in age, health status and management regimes. In all cases the Chardonnay were grafted to Ramsey rootstock, while the Shiraz were planted on own roots and Schwarzmann rootstock. In most cases canopy management involved various levels of box hedging and hand pruning to complete the job. At one site, the patch was lightly hedged last season, but it is the intention, based on the dissection results, that the canopy will more closely hedged for the coming season.

A total of 100 buds for each sample, were dissected under a microscope. Each sample consisted of 20 spurs with 5 buds for each spur.

Results:

Chardonnay – Sunraysia

Bud fertility in terms of fruitful buds for Chardonnay ranged between 79 and 86 percent, with the average being 83.8 percent. Percentage bunches ranged from 127 to 148 percent with the average being 136.6 percent. Necrotic buds ranged from 14 to 21 percent with an average of 16.2 percent. Bud necrosis and fruitfulness are marginally lower than last season. Last seasons results were 82.6 percent fruitful buds, 140.8 percent fruitfulness and 17.4 percent bud necrosis.

Shiraz – Sunraysia

Bud fertility in terms of fruitful buds for Shiraz ranged between 60 and 73 percent, with the average being 68.4 percent. Percentage bunches ranged from 101 to 111 percent, with the average being 106.4 percent. Necrotic buds ranged from 27 to 40 percent with the average being 30.4 percent. Bud necrosis and fruitfulness are marginally lower than last season. Last seasons results were 67.4 percent fruitful buds, 111.8 percent fruitfulness and 32.6 percent bud necrosis.

Chardonnay – Swan Hill

Bud fertility in terms of fruitful buds for Chardonnay ranged between 78 and 86 percent, with the average being 82.2 percent. Percentage bunches ranged from 122 to 144 percent with the average being 134.2 percent. Necrotic buds ranged from 15 to 22 percent with an average of 18.0 percent. Bud necrosis is a little higher and fruitfulness marginally less than Sunraysia.

Shiraz – Swan Hill

Bud fertility in terms of fruitful buds for Shiraz ranged between 67 and 84 percent, with the average being 73.8 percent. Percentage bunches ranged from 97 to 127 percent, with the average being 111.6 percent. Necrotic buds ranged from 16 to 33 percent with the average being 26.2 percent. Bud necrosis is significantly lower with fruitfulness higher than in Sunraysia.

Conclusion:

Without being more familiar with total management considerations in the case of variations in bud death, it is difficult to discuss the reasons. However, this may be followed up with the individual grower management programs and infrastructure.

The average fertility for the Chardonnay bud samples for the Sunraysia sites indicates that fruitfulness across the district is marginally lower than last season, but considered to be average. Swan Hill results indicate that fertility for Chardonnay is marginally lower than in Sunraysia. The Shiraz results for Sunraysia also indicate that fruitfulness is also a little lower than last season.

The average fertility for Chardonnay bud samples for Swan Hill sites indicates that fruitfulness is lower than for Sunraysia. There is no information available to enable a comparison to be made for any of the Swan Hill sites. Shiraz fertility for buds sampled indicate that fruitfulness is significantly higher than in Sunraysia. Bud necrosis is also significantly lower which may have contributed to higher fruitfulness. Again, there is no information to enable comparisons for Swan Hill.

Variability within the individual samples is what would be expected, given the differences with grapevines, trellises, irrigation, soils and the various approaches to canopy management systems. All of this information is to obtained and evaluated during the term of the trials.

It is considered that the results obtained as a result of the bud dissections provides reliable information regarding bud fertility for Chardonnay and Shiraz across the Sunraysia and Swan Hill districts. This information will assist growers in making decisions regarding crop regulation, based on expected fertility levels for the coming season. Further modification to pruning approaches may now be undertaken according to individual historical information for past production and canopy management approaches.

The information and results in this report provides an overview of what can be expected in terms of potential district production in Sunraysia and Swan Hill for the 2006 season. While this information provides an opportunity to predict initial cropping levels, there are a number of factors, particularly environmentally related, while will also contribute to determining subsequent yield and quality.

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