

Does cluster thinning improve Pinot Noir quality or just thin your profit?



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Background

- ❖ The traditional belief that low-yielding vines are associated with higher quality wines is often used to place an upper limit on the yield in commercial vineyards.
- ❖ The practice of cluster thinning has been used to regulate yield, and to improve the chemical composition of the remaining berries through manipulation of the leaf to fruit ratio of the grapevine.
- ❖ The aim of this study was to evaluate the effect of cluster thinning on the fruit quality of three Pinot Noir (*Vitis vinifera* L.) clones grown in Southern Tasmania.

Results

- ❖ In all three clones the thinning at flowering, pea-size berries and veraison treatments significantly reduced the total yield below the control and wing removal treatment.
- ❖ There were no significant differences in bunch weight, number of berries, or berry weight for clones D2V5 and MV6. However, in clone D5V12 bunch weight was significantly higher in the flowering, pea-size berries and veraison treatments than the control (P=0.037).
- ❖ Despite thinning vines well below commercial harvest thresholds (<4 tonnes/ha) for all three clones, in the flowering, pea-size and veraison treatments, there was no significant difference in fruit quality parameters, except TSS (°Brix) in D5V12. For D5V12 the mean TSS of the control was significantly (P=0.048) lower at 23.03 °Brix than for the flowering, pea-size and veraison treatments, which were between 23.88 and 24.10 °Brix.

Method

- ❖ Pinot Noir grapevines of clones D2V5, MV6 and D5V12 were submitted to three cluster thinning treatments carried out at different times during the season;
 - ❖ 50% flowering,
 - ❖ pea-size berries,
 - ❖ veraison,
- ❖ All treated vines were manually thinned to 5 bunches per cane, on a 2 arm cane-pruned system.
- ❖ A 4th treatment was included where only the wing of every cluster was removed at veraison, as well as an untreated control.
- ❖ Yield components, TSS, titratable acidity, colour, phenolics and tannins were all measured.

Did thinning clusters at flowering, pea-size and veraison result in a significant difference in yield or quality when compared with the control?

	Yield Parameters		Fruit Quality Parameters	
	Total Yield	Bunch Weight	Total phenolics, Total Tannins, Total Anthocyanins, pH, TA	Total Soluble Solids
D2V5	√	x	x	x
MV6	√	x	x	x
D5V12	√	√	x	√

Control bunch weight was lower than treated vines

Control TSS was lower than treated vines

Conclusions

This study determined that despite crop manipulation well below commercial harvest thresholds, and regardless of the timing of removal, no significant difference in quality parameters was found, except total soluble solids (°Brix) in clone D5V12. In a season which allows for a large crop to be ripened, growers are effectively reducing their return with no compensation in quality. The relationship needs to be tested in a season which presents lower temperatures and sunlight hours during ripening.

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