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# Vinefax – Putting research into practice in Marlborough, New Zealand

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## Introduction

Vinefax, a weekly subscriber-based viticultural newsletter provided from October to April each year, has proved popular with those in the wine industry in Marlborough, New Zealand. Vinefax arose out of integrated disease management research carried out in Marlborough in the mid 1990s. The research identified that growers not only wanted access to relevant information but they wanted it to be interpreted for them in a useful manner.

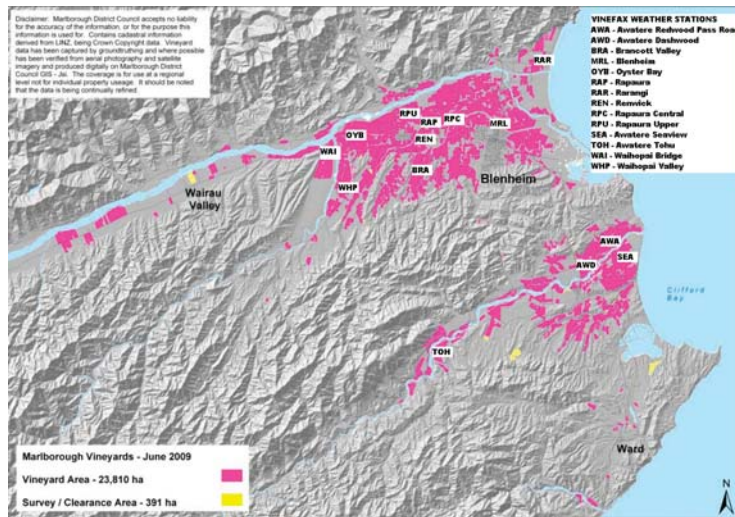


Figure 1: Marlborough viticulture area showing the location of weather stations used to monitor climatic variability and Botrytis cinerea infection periods.

## Vinefax provides the following information on a weekly basis:

- Summaries of rainfall and growing degree days from 14 vineyard weather stations (Figure 1 & Table 1)
- Grapevine growth stage data from five Sauvignon blanc vineyards
- Comparisons of the current season in relation to previous seasons (Figure 2 & Table 2)
- Weekly grape maturity and harvest date predictions for monitored vineyards for the current season in comparison with previous seasons (Table 2)
- Botrytis cinerea infection period notification (Figure 3)
- Disease management advice
- Information about wider grape research.

Table 1: Example of Vinefax weekly climate summary table.

Location	Weekly Rainfall		Total Rainfall		Weekly GDD <sup>1</sup>		Total GDD <sup>1</sup>	
	22 - 28/4/10	(mm)	1/7/09 - 28/4/10	(mm)	22 - 28/4/10	( $>10^{\circ}\text{C}$ )	1/7/09 - 28/4/10	( $>10^{\circ}\text{C}$ )
AWA – Awatere Redwood Pass Rd	1.4		410.9		44.4		1283.9	
AWD – Awatere Dashwood	0.0		421.5		44.6		1330.2	
BRA – Brancott Valley	2.7		482.3		37.7		1304.3	
MRL – Blenheim	1.6		435.2		42.4		1357.6	
OVB – Oyster Bay	4.8		558.6		39.7		1379.6	
RAP – Rapaura	3.8		506.8		40.4		1330.1	
RAR – Rarangi	4.6		515.2		42.8		1368.5	
REN – Renwick	4.0		492.4		41.7		1397.2	
RPC – Rapaura Central	2.4		456.0		42.2		1404.5	
RPU – Rapaura Upper	6.0		597.2		43.0		1441.4	
SEA – Awatere Seaview	1.0		392.1		42.9		1230.0	
TOH – Awatere Tohu	5.4		491.4		39.2		1190.4	
WAI – Waihopai Bridge	9.4		566.0		35.8		1300.4	
WHP – Waihopai Valley	3.4		461.6		35.7		1302.1	

<sup>1</sup>GDD – Growing Degree Days are calculated from average hourly temperatures above 10°C.

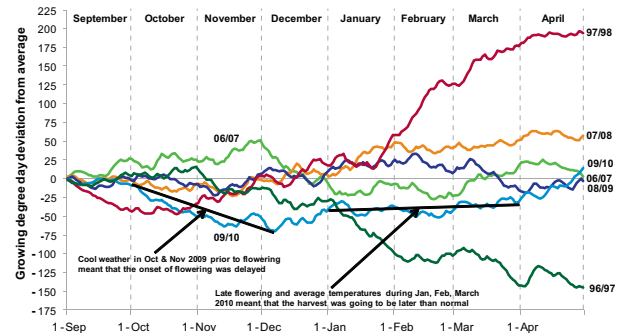


Figure 2: Seasonal growing degree-day comparison for Blenheim: days ahead (+) or behind (-) the long-term average.

Table 2: Weekly grape maturity and predicted harvest date in 2010, for Sauvignon blanc at the Seaview vineyard, compared with the previous five seasons.

Assessment	Awatere – Seaview					
	Weekly Soluble Solids (°Brix) Progression					
Week	2005	2006	2007	2008	2009	2010
31 January		5.4				
2 February		7.4				
9 February		11.3	6.1	8.1	5.7	
16 February		14.3	9.2	12.1	7.8	4.7
23 February	7.7	14.7	13.6	14.1	12.1	6.7
2 March 2010	11.3	18.3	16.5	15.6	13.4	10.5
Current week						
9 March	14.5	19.8	19.2	18.2	15.3	
16 March	16.3	20.5	21.1	19.8	17.0	
23 March	17.9	21.8	22.7	21.2	18.8	
30 March	19.3				20.0	
06 April	20.8				22.1	
13 April	21.8					
20 April						
Harvest date 2005-2009	18 April	31 March	26 March	29 March	9 March	14 April
2010 predicted						

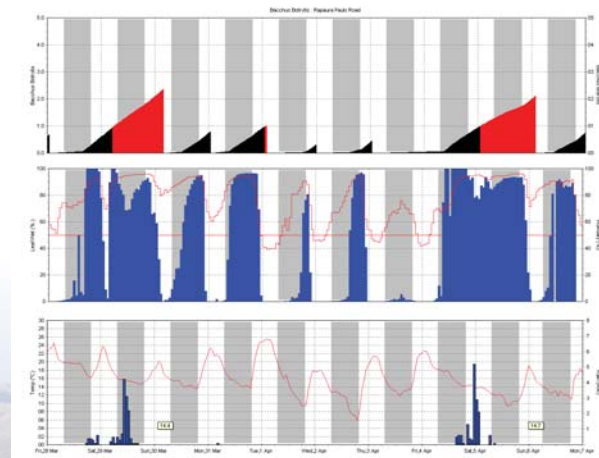


Figure 3: HortPlus™ MetWatch output from a weather station showing three windows: lower = temperature and rainfall, middle = relative humidity and leaf wetness, upper = Bacchus Botrytis cinerea infection period model.

## Summary

- Weekly meteorological information gives grapegrowers an indication of how temperature and rainfall compare with the long-term average.
- Weekly phenological data for the current season, from monitored vineyards, allow growers to adjust management decisions, based on whether the season is early or late.
- If the Bacchus botrytis model indicates high risk, growers can implement management changes e.g. extra botryticide sprays, leaf plucking, advancing harvest date.
- Vinefax completed its fourteenth season of operation in 2010.
- Vinefax can take some of the uncertainty out of growing grapes, as indicated by the following feedback. "Many thanks for the great information in this latest Vinefax. The growing degree day information continues to help us plan and implement vineyard management according to the season. Your article on late Botrytis sprays and worst case scenario pre harvest Botrytis management, is timely, practical and of really good value. We will use this for our contract growers and for our own vineyards in planning as we approach harvest. My congratulations; top proactive, practical advice".

