GRAPE (*Vitis vinifera* 'White Riesling')
Botrytis Bunch Rot; *Botrytis cinerea*

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Efficacy of fungicides for control of grape bunch rot, 2003.

Fungicide treatments were arranged in a randomized complete block design in a block of 'White Riesling' planted in 1995 on 7 x 10 ft spacing. Vines were trained to a bilateral cordon with spur pruning. The number of buds was adjusted based on pruning weights at the rate of ???30 buds/kg canes. Shoot thinning occurred ????20 to 23 May. Each treatment was replicated on 4 sets of 5 vines. Fungicide applications were applied using a hooded boom sprayer at??? 200 psi. Fungicides were applied at 127 gal water/A and were focused on the fruiting zone. Approximately ???4.2 gal of a spray suspension was applied per set of 20 vines. Treatments were applied on 19 Jun (40% bloom), 1-2 Jul (Shatter), 18 Jul (50% bunch closure), 28 Aug (60% veraison), ???Aug and 3 Oct (preharvest). Leaf removal was performed for one set of vines on ??? Jul. ???Thiloux 80 DF (4 lb/A) was applied on 24 May, and Rally 40 W at 4 oz/A was applied on 12 and 22 Jun and 8 Jul, and at 5 oz/A on 26 Jul and 20 Aug for control of powdery mildew.??? Urea fertilizer was spread within vine rows on 11 Apr at 53 lb/A. ???Cassaron 4G (150 lb/A) was initially applied to control weeds in the vine row on 1 Feb and completed on 18 Feb. Nets were placed around vines on ???26 Sep to protect fruit from possible bird damage. Incidence of bunch rot was determined on 27 Aug, 25 Sep, 1 Oct, 8 Oct and 13 Oct by examining 50 clusters from the center vines of each set of vines. Severity of bunch rot was determined on 13-14 Oct (15.5° Brix) by harvesting and examining 50 clusters from the center vines of each set of vines. Comparisons among treatments for incidence of bunch rot was evaluated by calculating the area under disease progress curves (AUDPC). AUDPC was calculated by multiplying the mean incidence from two observation dates by the number of days between observations ($\Sigma[Y_{i+1} + Y_i)/2][X_{i+1}-X_i]$ where Y_i is severity of rot at i*th* observation and X_i is the day of the i*th* observations). Values calculated between each pair of observations are added together to obtain a total AUDPC.

Weather conditions in Western Oregon were considered hot and dry with below normal rainfall. Even so, 0.42 in rain fell soon after the bloom application of fungicide. Some raisining or drying of berries in the bunch was observed around 1 Sep but increased during the month after more 90^{o}F weather. Bunch rot was first observed in late Sep after 0.68 in rainfall on 16-18 Sep. This rain event occurred about 17 days after the veraison spray but 10 days before the preharvest spray. A total of 0.72 in rain fell between the preharvest application and harvest. Highest incidence of bunch rot was found on nontreated vines. Vines treated with Elevate only at bunch close or only at preharvest, QRD 137, or a combination of BAS 516 and Rovral had an incidence of bunch rot on 2 Oct that were not significantly different than nontreated vines. The lowest incidence of bunch rot on 2 Oct was found on vines treated with a combination of Elevate and Vangard, however, bunch rot on vines treated with BAS 516 alone or a combination of Rovral, Elevate and Vangard were not significantly different. Single applications of Elevate indicated that full bloom and veraison were important timings this year for control of bunch rot. Bunch rot increased rapidly during Oct such that only vines treated with a combination of Elevate and Vangard had significantly less bunch rot incidence or severity than nontreated vines on 10-11 Oct. We suspect timing of the rains relative to the timing of fungicides as well as the general raisining had an effect on the high variation observed between plots. No phytotoxicity was observed on any vines treated with any fungicide.

Treatment and Rate/A	Time of Application**	% Bunch Rot 13 Oct*		AUDPC*
		Incidence	Severity	
Nontreated ……	None……			
Rovral 50 WP 2 lb then	Bloom			
Elevate 50 WDG 1 lb then	Bunch Close			
Vangard 75 WG 10 oz then	Veraison			
Elevate 50 WDG 1 lb …	Preharvest…			
Elevate 50 WDG 1 lb then	FB, BC and PH			
Vangard 75 WG 10 oz …	V……			
Elevate 50 WDG 1 lb then	FB, V and PH			
Vangard 75 WG 10 oz …	BC…….			
BAS 516 (38 WG) 1.18 lb	All……			
BAS 516 (38 WG) 1.18 lb then	FB and V			
Rovral 50 WP 2 lb ……..	BC and PH…..			
QRD 137 WP 6 lb ……	All……			
QRD 137 WP 6 lb then	FB and V			
Vangard 75 WG 10 oz …	BC and PH…..			
Messenger 4.5 oz plus Silwet at 1%……	All……			
Elevate 50 WDG 1 lb……	FB only……			
Elevate 50 WDG 1 lb……	BC only…….			
Elevate 50 WDG 1 lb……	V only…….			
Elevate 50 WDG 1 lb……	PH only…..			
Elevate 50 WDG 1 lb……	BC and V…			

* Means followed by same letter do not differ significantly based on Fisher's protected LSD (P=0.05).

**FB = Full Bloom, BC = Bunch Close, V = Veraison, and PH = PreHarvest.