

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

J. W. Pscheidt, L. Wallace, W. Mahaffee, J. DiLeone,  
 and G. Kenyon  
 Dept. of Botany and Plant Pathology  
 Oregon State University and USDA-ARS-HRCL  
 Corvallis, OR 97331-2903

**EFFICACY OF CHEMICAL AND BIOLOGICAL FUNGICIDES FOR CONTROL OF GRAPE BUNCH ROT, 2000:**  
 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. Shoot thinning occurred on 31 May. Each treatment was replicated on 4 sets of 5 or 10 vines depending on collective vine vigor. Bloom and bunch close treatments were applied using a hydraulic handgun sprayer at 200 psi and at a rate of 100 gal water/A. Veraison and preharvest applications were applied using a hooded boom sprayer at 250 psi at a rate of 100 gal water/A. Approximately 3.5-5 gal of a spray suspension was applied per set of vines depending on growth stage and number of vines per plot. Treatments were applied on 27 Jun (90% bloom), 24 Jul (late bunch closure), 29 Aug (veraison, Brix 11°) and 27 Sep (preharvest, Brix 18°). BCA and Nu-film/Thermx treatments were applied using a CO<sub>2</sub> backpack sprayer equipped with a flat fan nozzle at 70-80 psi at a rate of 66 gal/A (2 liters per 1 set of 5 vines) on 26 Jun (bloom), 24 Jul (late bunch closure), 6 Sep (late veraison) and 28 Sep. No leaf removal was performed. Powdery mildew control applications of Thiolux DF (6 lb/A) occurred on 25 May and Rally 40 WP (4 oz/A) was sprayed on 9 and 22 Jun, 7 and 21 Jul, 2 and 17 Aug. Urea fertilizer was spread within vine rows on 14 Apr at 250 lb/A. The herbicide Roundup Original (12 oz/A) plus R-11 (12 oz/A) was applied to control weeds in the vine row on 27 Jun. Nets were placed around vines on 28 Aug to protect fruit from possible bird damage. Incidence and severity of bunch rot was determined on 5 Oct (Brix 17.3°) and 16 Oct (Brix 17.6°) by harvesting and examining 30 clusters from the center vines of each set of vines.

There was 0.15 inches rain between the preharvest spray application and the first harvest and 1.21 inches rain between harvests. Many vines treated with various fungicides or biological agents did not have bunch rot significantly different from nontreated vines including NuCop (copper based), Serenade, QRD 137 and BCA – 1 & 2. Vines treated with Vanguard at 10 oz/A before harvest had significantly less bunch rot incidence at each harvest and less severity on 16 Oct harvest than nontreated vines. Incidence of bunch rot was significantly less on vines treated with Flint and 10 oz Vanguard than on vines treated with Flint and 5 oz Vanguard. Vines accidentally treated with a high rate of Nu-Film 17 (210 fl oz/A) plus Thermx (210 fl oz/A) developed a marginal leaf necrosis. Serenade solutions were excessively foamy under our conditions.

Treatment and Rate/A	Time of Application**	% Incidence of Bunch rot*		% Severity of Bunch Rot*	
		5 Oct	16 Oct	5 Oct	16 Oct
Nontreated .....	None .....	71.0 ab	96.0 a	13.1	21.1 a
Switch WG 14 oz then .....	B, C				
Vanguard 75 WDG 10 oz .....	D.....	36.0 c	81.0 bc	4.2	7.6 b
Flint 50 WDG 2 oz then.....	A, C				
Vanguard 75 WDG 5 oz .....	B, D.....	57.7 b	91.0 ab	8.8	13.4 ab
Flint 50 WDG 2 oz then.....	A, C				
Vanguard 75 WDG 10 oz .....	B, D.....	36.0 c	72.7 c	4.1	7.7 b
NuCop 50 DF 2 lb.....	All.....	69.3 ab	94.3 a	12.0	17.6 a
Serenade (QRD 132) at 4 lb.....	All.....	71.7 ab	95.0 a	10.4	22.1 a
Serenade (QRD 132) at 8 lb.....	All.....	76.7 ab	94.3 a	10.4	17.7 a
QRD 137 at 4 lb.....	All.....	70.0 ab	96.0 a	8.7	17.9 a
QRD 137 at 8 lb.....	All.....	66.0 ab	95.0 a	10.3	14.7 ab
Nu-Film 17 at 8 fl oz + Thermx at 8 fl oz...	All.....	61.7 ab	81.0 bc	7.2	15.1 ab
BCA – 1 (10 <sup>8</sup> cfu/ml) + Nu-Film 17 at 8 fl oz + Thermx at 8 fl oz.	All.....	69.3 ab	98.3 a	9.3	20.5 a
BCA – 2 (10 <sup>8</sup> cfu/ml) + Nu-Film 17 at 8 fl oz + Thermx at 8 fl oz.	All.....	81.0 a	96.0 a	13.7	22.2 a

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

\*\* Treatments were applied on A = 27 Jun (90% bloom), B = 24 Jul (late bunch closure), C = 29 Aug (veraison, Brix 11°), D = 27 Sep (preharvest, Brix 18°).