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

J. W. Pscheidt and John P. Bassinette
Dept. of Botany and Plant Pathology
Oregon State University
Corvallis, OR 97331-2903

Efficacy of fungicides for control of grape bunch rot, 2009.

Fungicide treatments were arranged in a randomized complete block design in a block of 'White Riesling' planted in 1995 on a 7x10 ft spacing. Vines were trained to a bilateral cordon with spur pruning. Vines were pruned from 20 to 25 Feb. Sucker removal and shoot thinning by hand, occurred from 14 to 22 May. Vines were pruned to approximately 60 spurs/vine and thinned to approximately 40 shoots/vine. 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 126 gal water/A and were focused on the fruiting zone. Leaves were removed from the fruiting zone on the east side of all vines from 29 Jun to 2 Jul. Approximately 4.2 gal of a spray suspension were applied per set of 20 vines. Treatments were applied on 24 Jun (full bloom), 23 Jul (bunch close), 2 Sep (50% veraison), and 28 Sep (preharvest). Quintec (2 fl oz/A) and Thiolux DF (6 lb/A) were used in rotation for powdery mildew management. Thiolux applications occurred on 29 May, 18 Jun, 8 July and 12 Aug while Quintec was applied on 4 and 26 Jun, 15 and 31 Jul and 18 Aug. Fungicide applications for powdery mildew control were applied using a hooded boom sprayer. No insecticides were used for mite control. A tank mix of Honcho Plus (2% solution) plus Diuron 4L (1.5 qt/A) was applied on 26 Mar for weed control. Rely (4 qt/A) was applied on 8 May for both sucker and additional weed control. No fertilizer was applied this year. No irrigation was applied to vines. Incidence of bunch rot was determined on 1 Oct by only examining 50 clusters from the center of each set of vines. Incidence and severity of bunch rot was also determined on 8 and 9 Oct by harvesting and examining 50 clusters (average 16.8^{o} Brix) from the center of each set of vines.

Bunch rot was first observed on 18 Sep on only a few widely scattered clusters and more generally by 21 Sep. A total of 0.89 inches rain fell within a week after the verasion application and 0.40 inches rain fell between the last fungicide application and harvest. All fungicide treated vines had less bunch rot than nontreated vines on 1 Oct. Although vines treated with Elevate only or Elevate plus PhD alternated with Pristine had the lowest bunch rot incidence, the other fungicide treated vines were not significantly different except those treated with Scala only. Incidence of bunch rot increased rapidly and was not significantly different among any of the treatments by 9 Oct. Vines treated with alternating programs of Elevate/Scala/Endura/Vangard or the higher rates of Topsin plus Captan/Pristine/Elevate plus Scala/Vangard plus Rovral had bunch rot severity that was not significantly different from that of nontreated vines. Lowest bunch rot severity was on vines treated with Elevate alone, however, most other fungicide treated vines were not significantly different except for the two programs that were not significantly different from the nontreated vines. Significantly less bunch rot severity was detected on vines treated with Elevate alone or Endura alone when compared to an alternating program of Elevate/Scala/Endura/Vangard. There was no detectable difference in bunch rot when comparing full vs. half rates in a multi-fungicide alternation program. No phytotoxicity was observed on any vines treated with any fungicide.

Treatment and Rate/A	Time of application*	% Bunch Rot**		
		Incidence (1 Oct)	Incidence (9 Oct)	Severity (9 Oct)
Nontreated ……	None…..…...	12.3 a	78.0	8.0 a
Elevate 50 WDG at 16 oz then	B			
Scala 60 SC at 18 fl oz then	BC			
Endura 70 WP at 8 oz then	V			
Vangard 75 WG at 10 oz	PH……...	3.0 bc	77.5	6.5 ab
Elevate 50 WDG at 16 oz	All……...	2.0 c	64.5	2.5 d
Scala 60 SC at 18 fl oz	All……..	7.0 b	67.0	4.8 bcd
Endura 70 WP at 8 oz	All……...	3.8 bc	59.5	3.1 cd
Vangard 75 WG at 10 oz	All……...	5.8 bc	69.0	4.3 bcd
Elevate 50 WDG at 16 oz alternate with	B, V			
Pristine 36 WDG at 18.5 oz	BC, PH……	4.8 bc	57.0.	3.0 cd
Elevate 50 WDG at 10 oz plus				
PhD at 6.2 oz plus				
Tactic at 8 fl oz/100 gal alt with	B, V			
Pristine 36 WDG at 18.5 oz	BC, PH……	2.0 c	67.0	3.5 bcd
Luna Privilege (USF 2015) at 5 fl oz ..	All……...	2.8 bc	64.0	2.9 cd
Luna Experience (USF 2017) at 8 fl oz .	All……...	5.5 bc	62.5	4.3 bcd
Luna Experience				
(USF 2017) at 8 fl oz alt with	B, V			
Adament 50 WDG at 4 oz	BC, PH……	3.8 bc	64.0	4.3 bcd
Scala 60 SC at 18 fl oz plus				
Flint 50 WDG at 2 oz then	B			
Adament 50 WDG at 4 oz then	BC			
Scala 60 SC at 18 fl oz then	V			
Adament 50 WDG at 4 oz	PH……...	3.8 bc	69.5	4.4 bcd
Topsin 4.5 F at 40 fl oz plus				
Captan 80 WDG at 2.5 lb then	B			
Pristine 36 WDG at 23 oz then	BC			
Elevate 50 WDG at 16 oz plus				
Scala 60 SC at 18 fl oz then	V			
Vangard 75 WDG at 5 oz plus				
Rovral 4F at 32 fl oz	PH……...	5.0 bc	66.5	5.7 abc
Topsin 4.5 F at 30 fl oz plus				
Captan 80 WDG at 1.25 lb then	B			
Pristine 36 WDG at 18.5 oz then	BC			
Elevate 50 WDG at 8 oz plus				
Scala 60 SC at 9 fl oz then	V			
Vangard 75 WDG at 5 oz plus				
Rovral 4F at 16 fl oz	PH……...	3.0 bc	64.5	3.5 bcd

* B = Bloom (24 Jun), BC = Bunch Close (23 Jul), V = Veraison (2 Sep), and PH = PreHarvest (28 Sep).

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