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

J. W. Pscheidt and D. R. Kroese
Dept. of Botany and Plant Pathology
Oregon State University
Corvallis, OR 97333

Efficacy of fungicides for management of grape bunch rot, 2021

Fungicide treatments were arranged in a randomized complete block design in a vineyard of 'White Riesling' planted in 1985 on a 7x11 ft spacing. Vines were trained to a bilateral cordon with spur pruning. Vines were pruned from 11 to 14 Jan. Shoot thinning by hand occurred on 28 to 29 Apr while sucker removal occurred periodically during the growing season. Canes were cut above the top wire on 6 Jul and maintained at this height throughout the growing season. Each treatment was replicated on 4 sets of 5 vines. Fungicides were applied using a hooded boom sprayer at 150 psi resulting in 80 gal water/A. Approximately 2.8 gal of a spray suspension were applied per set of 20 vines. All materials were applied focused on the fruiting zone. Leaves were removed from the fruiting zone on the east side of all vines on 21 to 22 Jun. Treatments were applied on 9 Jun (30% bloom, BBCH 63), 15 Jul (bunch close, BBCH 78), 26 Aug (late veraison, BBCH 85), and 17 Sep (preharvest). Applications of Microthiol Disperss (6 lb/A) occurred on 14 and 26 May, 4, 16 and 25 Jun, 8, 20 and 29 Jul for management of powdery mildew. Fungicide applications for powdery mildew control were applied using a hooded boom sprayer at 150 psi. Movento (6 fl oz/A) was applied on 24 May for erineum mite management. Makaze (64 fl oz/A) plus GoalTender (40 fl oz/A) plus Mission (2.5 fl oz/A) were tank mixed and applied to all rows on 22 Jan, while Makaze (3 fl oz/gal) was applied on 30 Apr and Forfeit 280 (3 fl oz/gal) was applied on 22 Jun for spot management of weeds. Fertilizer (16-16-16; 30 lb/A) was applied 22 Apr but little rain occurred to move it into the soil. Nets were placed over rows on 20 Sep to prevent bird damage. Incidence of bunch rot was determined on 22 and 28 Sep and 1 Oct by examining 50 clusters from the center of each set of vines. Severity of bunch rot was determined on 1 Oct by harvesting 50 clusters (average 17.9^{o} Brix) from the center of each set of vines.

Spring rainfall was well below average and an unusual climate change related heat dome (heat wave) occurred for 3 days in late June with temperatures at or above 100^{o}F. This resulted in the second driest (first was in 1924) and second hottest (first was in 2015) growing season ever recorded. After the first fungicide application there was a total of 2.6 inches rainfall during bloom and 1.1 in after the preharvest application. Bunch rot symptoms were first observed sporadically throughout the vineyard on 7 Sep. Highest incidence of bunch rot was found on non-treated vines on all rating dates but was significantly higher than the bunch rot found on fungicide treated vines only on 23 and 29 Sep. Lowest incidence of bunch rot on 23 Sep was found on vines treated with Miravis Prime or Mevalone alternate Elevate 50 WDG but was not significantly different than from the bunch rot found on all other fungicide treated vines. Lowest incidence of bunch rot on 29 Sep was found on vines treated with Pristine alternate Elevate 50 WDG but was not significantly different than from the bunch rot found on all other fungicide treated vines. Lowest incidence of bunch rot on 1 Oct was found on vines treated with Pristine alternate Elevate50 WDG. Highest severity of bunch rot was found on non-treated vines but was not significantly higher than the bunch rot found on vines treated with only Mevalone. Lowest severity of bunch rot was found on vines treated with Miravis Prime but was not significantly different than from the bunch rot found on all other fungicide treated vines. Although no phytotoxicity was observed on vines treated with bunch rot materials, minor russeting was observed late summer on sun exposed clusters from using sulfur for powdery mildew control.

Treatment & rate/A or /100 gal as indicated below	Time of application*	% Bunch rot**			
		Incidence (22 Sep)	Incidence (28 Sep)	Incidence (1 Oct)	Severity (1 Oct)
Non-treated but leaves were pulled……..	None……	37.0 a	60.5 a	90.5	12.9 a
Miravis Prime at 13.4 fl oz plus Induce at 1 pt/100 gal …….	All……...…	12.0 b	38.5 b	85.0	7.5 b
Pristine at 23 oz plus Induce at 1 pt/100 gal *alternate* Elevate 50 WDG at 16 oz plus Induce at 1 pt/100 gal …….	A, C B, D……	14.5 b	34.0 b	81.0	7.8 b
Mevalone at 55 fl oz plus Induce at 1 pt/100 gal …….	All…	16.5 b	43.0 b	85.5	10.1 ab
Mevalone at 55 fl oz plus Induce at 1 pt/100 gal *alternate* Elevate 50 WDG at 16 oz plus Induce at 1 pt/100 gal …….	A, C B, D…….	12.0 b	38.5 b	86.0	8.4 b

* Treatments were applied on A = 9 Jun (30% bloom, BBCH 63), B = 15 Jul (bunch close, BBCH 78), C = 26 Aug (late veraison, BBCH 85), and D = 17 Sep (preharvest).

** Means followed by the same letter do not differ significantly based on Fisher's protected LSD (*P=0.05*). Means without letters are not significantly different.

Acknowledgements - We wish to thank Brent Warneke for helping with data collection.