

GRAPE (*Vitis* interspecific hybrid 'Vignoles')
 Botrytis bunch rot; *Botrytis cinerea*
 Rhizopus rot; *Rhizopus* spp.
 Blue mold; *Penicillium* spp.
 Aspergillus rot; *Aspergillus* spp.

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Evaluation of fungicides and gibberellic acid for management of Botrytis bunch rot of grapes, 2007.

This trial was conducted with eight-year-old vines trained to a single-curtain, high-wire cordon system at the Lake Erie Regional Grape Research and Extension Center in North East, PA. Treatments were applied to single-vine plots in a randomized complete block design with 8 replications. Vanguard and Elevate were applied with a Friend covered-boom plot sprayer at 100 psi and 100 gal/A. ProGibb (gibberellic acid) was applied to runoff with a backpack sprayer at 30 psi. Other diseases were controlled with standard fungicides applied with a Kinkelder air blast sprayer. Rainfall for May, Jun, Jul, Aug, and Sep was 2.70, 3.26, 5.89, 6.69, and 3.56 in., respectively. The incidence (percent clusters infected) and severity (percent area infected) of Botrytis bunch rot and total rot (Botrytis bunch rot, Rhizopus rot, blue mold, and Aspergillus rot) were determined on 17-19 Sep from 25 clusters per plot.

Dry conditions in Jun and early Jul limited the establishment of latent infections of *Botrytis* during bloom and early fruit development. However, a late, unchecked berry moth infestation and 6.42 inches of rain from late Aug to early Sep intensified disease pressure during ripening. Compared to the untreated check, two applications of fungicide (Elevate at pre-closure and Vanguard at veraison) did not statistically reduce the incidence of Botrytis bunch rot (BBR) but did provide a significant, though small, reduction (29 %) in the severity of BBR. Two additional applications of fungicide (Vanguard at 50-80 % capfall, Elevate at pre-harvest) significantly reduced both incidence and severity of BBR over two applications and the untreated check. Four (but not two) fungicide applications modestly but significantly controlled total rot (TR) incidence and severity. ProGibb supplements to two fungicide applications numerically improved control of all disease parameters over that of the two fungicide applications alone and resulted in significant control of TR severity compared with the untreated check. The one exception was the pre-bloom 0.18 oz rate. The 0.18 oz rate at bloom significantly improved control of the incidence and severity of BBR and the incidence of TR, but not the severity of TR when compared to 2 fungicide applications alone. The most consistently effective ProGibb supplements were the 0.88 oz bloom and pre-bloom applications that improved control of BBR and TR incidence and severity to levels statistically superior to two and equal to four fungicide applications. Rot control among bloom applications did not differ significantly except between 1.4 and 0.88 oz for TR incidence. The 0.88 oz pre-bloom rate was consistently superior statistically to the 0.18 oz pre-bloom rate.

Treatment and rate/A	Timing ^z	Botrytis bunch rot		Total rot	
		% Infected	% Area ^y infected	% Infected	% Area ^y infected
Vanguard 75WG 10 oz	2, 4				
Elevate 50 WDG 1 lb.....	3, 5	35.0 a ^x	4.28 a ^x	59.0 bcd ^x	10.30 ab ^x
ProGibb 40 % WSG 1.4 oz (40 ppm)	2				
Elevate 50 WDG 1 lb	3				
Vanguard 75WG 10 oz.....	4	52.0 bcd	9.66 abcd	59.5 bcd	12.36 ab
ProGibb 40 % WSG 0.88 oz (25 ppm)	2				
Elevate 50 WDG 1 lb	3				
Vanguard 75WG 10 oz.....	4	40.0 ab	8.38 abc	43.0 a	9.14 a
ProGibb 40 % WSG 0.35 oz (10 ppm)	2				
Elevate 50 WDG 1 lb	3				
Vanguard 75WG 10 oz.....	4	42.5 abc	9.52 abcd	53.5 abc	11.54 ab
ProGibb 40 % WSG 0.18 oz (5 ppm)	2				
Elevate 50 WDG 1 lb	3				
Vanguard 75WG 10 oz.....	4	42.0 abc	7.98 abc	48.5 abc	10.77 ab
ProGibb 40 % WSG 0.88 oz (25 ppm)	1				
Elevate 50 WDG 1 lb	3				
Vanguard 75WG 10 oz.....	4	38.5 ab	6.79 ab	46.5 ab	8.83 a
ProGibb 40 % WSG 0.35 oz (10 ppm)	1				
Elevate 50 WDG 1 lb	3				
Vanguard 75WG 10 oz.....	4	49.4 abcd	10.44 bcd	61.8 cde	14.48 ab
ProGibb 40 % WSG 0.18 oz (5 ppm)	1				
Elevate 50 WDG 1 lb	3				
Vanguard 75WG 10 oz.....	4	57.0 cde	12.79 cd	69.5 de	16.80 bc
Elevate 50 WDG 1 lb	3				
Vanguard 75WG 10 oz.....	4	62.0 de	14.56 d	69.0 de	17.27 bc
Untreated Check.....		69.5 e	20.50 e	76.0 e	23.65 c

^zTiming: 1 = 6 Jun (8 days prior to trace bloom); 2 = 20 Jun (bloom; 50-80 % capfall); 3 = 6 Jul (pre-closure); 4 = 13 Aug (veraison); 5 = 28 Aug (pre-harvest)

^ySeverity was rated using the Barratt-Horsfall scale and was converted to % area infected using Elanco conversion tables.

^xMeans followed by the same letter within columns are not significantly different according to Fisher's Protected LSD ($P \leq 0.05$).