

**Evaluation of leaf removal, gibberellic acid and fungicides for control of Botrytis bunch rot of grapes, 2007.**

This trial was conducted on seven-year-old vines trained to a four cane kniffen trellis system at the Lake Erie Regional Grape Research and Extension Center in North East, PA. Treatments were applied to twelve-vine plots in a randomized complete block design with 4 replications. *Botrytis*-specific fungicides (Vanguard and Elevate) and ProGibb (gibberellic acid) were applied with a Friend covered-boom plot sprayer at 100 psi and 100 gal/A. Leaf removal was performed by hand or by Gallagher leaf blower (mechanical). Other diseases (powdery and downy mildew, *Phomopsis*, and black rot 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 infected) and severity (percent area infected) of Botrytis bunch rot were determined on 24-25 Sep from 50 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, 6.42 inches of rain that fell from late Aug to early Sep intensified disease pressure during ripening. All treatments significantly reduced Botrytis bunch rot (BBR) incidence and severity compared to the untreated check. Hand leaf removal at trace bloom was the most effective supplement to two fungicides, significantly improving the control of BBR incidence over two fungicides alone or two fungicides supplemented with mechanical leaf removal at pre-veraison. ProGibb and leaf removal supplements to two fungicide applications improved control of BBR severity numerically over two fungicides alone, but the improvements were not statistically significant. Four fungicide applications were no more effective than two. Rot severity was not significantly affected by method or the timing of leaf removal, but earlier leaf removal by hand was numerically superior to later mechanical removal. Leaf removal increased the incidence of fruit with sunburn (greatest at pre-veraison timing; least at trace bloom).

Treatment and rate/A	Timing <sup>z</sup>	% Infected	% Area <sup>y</sup> infected	% <sup>x</sup> Control
ProGibb 40 % WSG 0.18 oz (5 ppm)	2			
Elevate 50 WDG 1 lb	5			
Vanguard 75WG 10 oz.....	7	14.5 ab <sup>w</sup>	0.57 a <sup>w</sup>	83
ProGibb 40 % WSG 0.35 oz (10 ppm)	2			
Elevate 50 WDG 1 lb	5			
Vanguard 75WG 10 oz.....	7	15.5 ab	0.57 a	83
Leaf removal (hand)	1			
Elevate 50 WDG 1 lb	5			
Vanguard 75WG 10 oz.....	7	7.0 a	0.22 a	94
Leaf removal (hand)	4			
Elevate 50 WDG 1 lb	5			
Vanguard 75WG 10 oz.....	7	11.5 ab	0.31 a	91
Leaf removal (hand)	6			
Elevate 50 WDG 1 lb	5			
Vanguard 75WG 10 oz.....	7	14.0 ab	0.75 a	78
Leaf removal (mechanical)	4			
Elevate 50 WDG 1 lb	5			
Vanguard 75WG 10 oz.....	7	16.5 ab	0.75 a	78
Leaf removal (mechanical)	6			
Elevate 50 WDG 1 lb	5			
Vanguard 75WG 10 oz.....	7	17.8 b	0.96 a	72
Vanguard 75WG 10 oz	3			
Elevate 50 WDG 1 lb.....	5 8	15.5 ab	1.21 a	64
Elevate 50 WDG 1 lb	5			
Vanguard 75WG 10 oz.....	7	20.8 b	1.23 a	64
Untreated Check.....		37.3 c	3.40 b	

<sup>z</sup>Timing: 1 = 14 Jun (trace bloom); 2 = 18 Jun (50 % capfall); 3 = 20 Jun (late bloom); 4 = 13 Jul (3 weeks post bloom); 5 = 20 Jul (pre-close); 6 = 6 Aug; 7 = 8 Aug (pre-veraison); 8 = 28 Aug (pre-harvest).

<sup>y</sup>Severity was rated using the Barratt-Horsfall scale and was converted to % area infected using Elanco conversion tables.

<sup>x</sup>Percent control = control of disease severity on berries over that of the check.

<sup>w</sup>Means followed by the same letter within a column are not significantly different according to Fisher's Protected LSD ( $P \leq 0.05$ ).