

**Evaluation of leaf removal, gibberellic acid and fungicides for control of Botrytis bunch rot of Chardonnay grapes, 2008.**

This trial was conducted on 8-yr-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 12-vine plots in a randomized complete block design with 4 replications. *Botrytis*-specific fungicides (Vangard 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. The incidence (percent infected) and severity (percent area infected) of Botrytis bunch rot were determined on 26-27 Sep from 50 clusters per plot.

Wet conditions in Jun and Jul favored the establishment of latent infections of *Botrytis* during bloom and early fruit development. Additional rainfall during the first three weeks of ripening further intensified bunch rot disease. Rainfall for May, Jun, Jul, Aug, and Sep was 4.09, 5.35, 8.46, 4.21, and 4.8 in., respectively. All treatments significantly reduced Botrytis bunch rot over the untreated check. ProGibb at 5 ppm, hand leaf removal at trace bloom and mechanical leaf removal at 3 weeks post-bloom were the most effective supplements to two fungicides, significantly reducing rot severity over two fungicides alone and numerically exceeding the enhanced control from additional fungicides at bloom and pre-harvest. There were no significant effects of method or timing among leaf removal treatments, although for the second year, earlier application tended to result in superior control.

Treatment and rate/A	Applicaton timing <sup>z</sup>	% Infected	% Area Infected <sup>yx</sup>	% Control <sup>w</sup>	
ProGibb 40% WSG 0.18 oz (5 ppm)	2				
Elevate 50 WDG 1 lb	5				
Vangard 75WG 10 oz.....	7.....	37.0 ab <sup>v</sup>	2.42 a <sup>v</sup>	84	
ProGibb 40% WSG 0.35 oz (10 ppm)	2				
Elevate 50 WDG 1 lb	5				
Vangard 75WG 10 oz.....	7.....	39.5 ab	3.39 ab	77	
Leaf removal (hand)	1				
Elevate 50 WDG 1 lb	5				
Vangard 75WG 10 oz.....	7.....	29.0 a	1.45 a	90	
Leaf removal (hand)	4				
Elevate 50 WDG 1 lb	5				
Vangard 75WG 10 oz.....	7.....	37.5 ab	2.75 ab	81	
Leaf removal (hand)	6				
Elevate 50 WDG 1 lb	5				
Vangard 75WG 10 oz.....	7.....	38.5 ab	3.54 ab	76	
Leaf removal (mechanical)	4				
Elevate 50 WDG 1 lb	5				
Vangard 75WG 10 oz.....	7.....	29.0 a	2.01 a	86	
Leaf removal (mechanical)	6				
Elevate 50 WDG 1 lb	5				
Vangard 75WG 10 oz.....	7.....	36.5 ab	2.99 ab	80	
Vangard 75WG 10 oz	3	7			
Elevate 50 WDG 1 lb.....	5	8.....	31.0 a	3.77 ab	74
Elevate 50 WDG 1 lb	5				
Vangard 75WG 10 oz.....	7.....	47.0 b	5.28 b	64	
Untreated Check.....		73.3 c	14.70 c		

<sup>z</sup>Timing: 1 = 16 Jun (trace bloom); 2 = 24 Jun (80-100% capfall); 3 = 25 Jun (late bloom); 4 = 10 Jul (3 weeks post bloom); 5 = 14 Jul (pre-close); 6 = 13 Aug; 7 = 14 Aug (veraison); 8 = 4 Sep (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>Actual data are shown. Data were subjected to square root transformation before statistical analysis.

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

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