GRAPE (*Vitis vinifera* 'Chardonnay')
Botrytis bunch rot; *Botrytis cinerea*

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Evaluation of leaf removal, gibberellic acid and fungicides for control of Botrytis bunch rot of grapes, 2010.

This trial was conducted on 10-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 arranged in a randomized complete block design with 4 replications, and each plot consisted of 12 adjacent vines in a row. *Botrytis*-specific fungicides (Vangard and Elevate) were applied with a Friend covered-boom plot sprayer at 100 psi and 100 gal/A. ProGibb (gibberellic acid) was applied with a backpack sprayer at 60 psi and about 100 gal/A. Leaf removal involved the removal of three to four leaves per shoot in the fruit zone and was performed by hand. The ProGibb and leaf removal treatments served as amendments to two applications of *Botrytis* specific fungicide at pre-close and veraison. Other diseases (i.e., powdery mildew, downy mildew, Phomopsis cane and leaf spot, and black rot) were controlled with standard fungicides applied with a Bertaud air blast sprayer. The incidence (percent clusters infected), and severity (percent area infected) of Botrytis bunch rot were determined on 21 Sep from 50 clusters per plot, selected randomly from the center 10 vines.

Total rainfall for May, Jun, Jul, Aug, and Sep was 3.4, 4.6, 4.6, 2.8, and 6.1 in., respectively. The incidence of grape berry moth in the experimental area was high (about half of all clusters were infested) and not significantly different among treatments ($P = 0.59$). This greatly increased Botrytis bunch rot pressure during ripening, leading to poor disease control in all treatments. For example, two fungicides alone and amended with post bloom leaf removal did not significantly reduce the incidence of rot. Nevertheless, disease incidence was significantly reduced when two fungicides were amended with gibberellic acid (GA; ProGibb), two additional fungicides, or leaf removal at trace bloom (53, 30, and 28% control, respectively relative to the untreated control). All treatments significantly reduced rot severity when compared to the control, but only the addition of GA to two fungicides significantly improved control over two fungicides alone.

Treatment and rate/A	Application timing[z]	% Infected	% Area Infected[y]	% Control[x]
Leaf removal (trace bloom)	1			
Elevate 50 WDG 1 lb	5			
Vangard 75WG 10 oz…….....	6	48.0 b[w]	2.52 ab[w]	61
Leaf removal (post bloom)	4			
Elevate 50 WDG 1 lb	5			
Vangard 75WG 10 oz…….....	6	52.0 bc	2.68 ab	59
ProGibb 4% 9.5 fl oz (25 ppm)	2			
Elevate 50 WDG 1 lb	5			
Vangard 75WG 10 oz…….....	6	31.0 a	1.72 a	74
Vangard 75WG 10 oz	3, 6			
Elevate 50 WDG 1 lb…….....	5, 7	46.5 b	2.51 ab	61
Elevate 50 WDG 1 lb	5			
Vangard 75WG 10 oz……..….	6	57.5 bc	3.97 b	39
Untreated control.....		66.5 c	6.51 c	

[z]Timing: 1 = 9 Jun (trace bloom); 2 = 14 Jun (50-80% capfall); 3 = 18 Jun (late bloom); 4 = 1 Jul (about 2 weeks post bloom); 5 = 12 Jul (pre-close); 6 = 9 Aug (veraison); 7 = 31 Aug (pre-harvest).
[y]Severity was rated using the Barratt-Horsfall scale and was converted to % area infected using Elanco conversion tables.
[x]Percent control = control of disease severity on berries relative to the untreated control.
[w]Means followed by the same letter within a column are not significantly different by Fisher's Protected LSD ($\alpha \leq 0.05$).