

Evaluation of fungicides for control of botrytis fruit rot, 2002.

Trials were performed in a 2-year-old planting on a Cornell research farm at the Geneva Experiment Station. Plants were grown in a matted-row system, with fruiting rows approx. 1.5 ft wide on 4 ft centers. Individual plots consisted of 12 ft sections of row with 3 ft buffer zones on both ends of each treatment. Treatments were replicated 4 times in a randomized complete block design. Fungicides were applied with a 2 gal hand sprayer (approx. 30 PSI) during bloom on 16, 23, 29 May, and 3 June 2002 representing application timings 1, 2, 3 and 4, respectively. To provide disease pressure, approx. 3 berry halves inoculated with 3 strains of *B. cinerea* were placed evenly throughout each plot after treatments were dry on each day applications were made. Fruit were harvested on 18, 21, and 26 Jun. The number of berries with and without symptoms was recorded the same day they were harvested and the percent of berries infected was calculated. Subsamples of unblemished, symptom-less berries from each plot were placed on individual deep-well plastic trays. The number of fruit sampled per replication per harvest date was typically 25, unless the number of berries available for screening was less than 25, in which case all berries were subjected to the post harvest treatment. The berries were incubated 4 days at 68 F and 95-97% relative humidity. After incubation the proportion of diseased fruit was recorded. Data were transformed (square root) before statistical analysis and analyzed in an ANOVA. Means were separated using Fisher’s Protected LSD ($P \leq 0.05$).

Four infection events occurred during bloom. For each event, the date, inches of precipitation, and the average temperature for the date were: (1) 16-18 May, 0.68 in, 47 F; (2) 25 May, 0.26 in, 54 F; (3) 29-31 May, 1.46 in, 70 F; and (4) 4-5 Jun, 0.75 in, 63 F. Treatments rated at harvest could be placed into one of three groupings: those which provided control statistically equivalent to the best treatment (i.e., CGA173506 in alternation with Captan); those which did not perform better than the untreated check; and those which can be classified in to both categories. Treatments in the first grouping had less than 5% disease, treatments in the second grouping had greater than 6% disease, and treatments in the last grouping had disease between 5 and 6%. Greater separation among treatments was achieved after postharvest treatment. BAS 516 (a premix of BAS 510 and BAS 500) and BAS 510 provided the best level of control along with Elevate 50WG, the high rate of TM45002, and Switch 62.5WG used in stand-alone schedules. As expected, BAS 500 did not provide any level control of gray mold. Captan 50WP or 80WP alone and where it was used in mixture or in alternation provided marginal control, but significantly better control than the untreated check.

Treatment (Rate/A)	Timing	% disease post harvest*	% disease at harvest
BAS 516 (1.45 lb)	1-4	4.0 a	4.3 abc
BAS 510 (0.529 lb)	1-4	5.1 ab	6.2 bcd
CGA173506 (0.437 lb)	1,2		
<i>then</i> Elevate 50WG (1.5 lb)	3,4	6.1 ab	4.3 abc
Elevate 50WG (1.5 lb)	1-4	6.2 ab	5.6 abcd
TM45002 (5.25 lb)	1-4	7.1 ab	6.5 bcd
Switch 62.5WG (0.875 lb)	1,3		
<i>alt. w/</i> Quadris 2.08 SC (0.9 Lpr/HA)	2,4	9.4 abc	3.6 abc
Switch 62.5WG (0.875 lb)	1-4	9.7 abc	5.0 abc
TM45002 (3.5 lb)	1-4	11.1 abcd	2.9 ab
Captan 80WP (3.75 lb)	1-4	11.6 abcd	4.4 abc
Elevate 50WG (1 lb) + Captan 50 W (3.75 lb)	1-4	11.7 abcd	5.9 abcd
CGA173506 (0.437 lb)	1,3		
<i>alt. w/</i> Captan 50WP (4 lb)	2,4	12.3 bcd	5.5 abcd
Elevate 50WG (1.5 lb) + Captan 50WP (5.63 lb)	1-4	13.0 bcd	4.3 abc
Switch 62.5WG (0.875 lb)	1,2		
<i>then</i> Elevate 50WG (1.5 lb)	3,4	13.1 bcd	5.0 abc
CGA173506 (0.437 lb)	1,2		
<i>then</i> Captan 50WP (4 lb)	3,4	13.2 bcde	2.2 a
Switch 62.5WG (0.875 lb)	1,2		
<i>then</i> Captan 50WP (4 lb)	3,4	15.3 cde	4.7 abc
Captan 50WP (4 lb)	1,2		
<i>then</i> CGA173506 (0.437 lb)	3,4	16.8 cde	6.8 bcd
Switch 62.5WG (0.875 lb)	1,3		
<i>alt. w/</i> Captan 50WP (4 lb)	2,4	17.1 cde	7.2 cd
Captan 50WP (6 lb)	1-4	19.0 de	6.3 bcd
BAS 500 (0.9 lb)	1-4	21.4 ef	9.0 d
UTC		29.3 f	9.3 d

* Values are actual means of 4 replications per treatment. Treatment means within a column followed by the same letter are not significantly different from each other using Fisher’s Protected LSD ($P \leq 0.05$).