

**Evaluation of fungicides for control of Botrytis fruit rot on strawberry, 2003.**

Trials were performed in a 3-year-old planting on a Cornell research farm at the Geneva Experiment Station. Plants were grown in a matted-row system, with fruiting rows approximately 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 22, 27, 30 May, and 3 Jun. 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 the first date of application. Fruit were harvested on 20, 24, 26 Jun, and 2 Jul. 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, symptomless 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 arcsin square root transformed before statistical analysis and analyzed in an ANOVA using SAS PROC MIXED. Treatment means were separated using the pairwise difference option (PDIFF) in PROC MIXED ( $P < 0.05$ ).

The 2003 season was exceptionally wet, with 17 days of recorded rainfall between bloom and harvest. Three major infection periods occurred during bloom. For each infection period, the date, inches of precipitation and average temperature during this period are listed, respectively: 20-21 May, 0.31 in., 56 F; 23-25 May, 0.97 in., 55 F; and 31 May-1 June, 1.04 in., 52 F. Surprisingly for such a rainy season, Botrytis fruit rot at harvest was relatively low; however, one-third of all berries developed post harvest Botrytis fruit rot. BAS 516 (Pristine), BAS 510 (Endura), TM45002 (Captivate), and Vanguard gave 50% or better control of post harvest disease. Interestingly, the lower rates of both TM45002 and BAS516 gave numerically better control than higher rates of these products. Switch, Elevate and Scholar provided significant reduction in disease relative to the untreated check. As expected, the strobilurin fungicides Amistar and BAS 500 did not provide control of Botrytis. Oxidate, a commercial formulation of hydrogen dioxide, did not provide any control of gray mold; no phytotoxicity was observed.

Treatment, rate/A	Botrytis fruit rot post harvest (%)*	Botrytis fruit rot at harvest (%)*
BAS 516 38WG 1.18 lb.....	5.41 a	0.07 ab
BAS 510 70WG 0.53 lb.....	9.29 ab	0.04 ab
BAS 516 38WG 1.45 lb.....	11.56 ab	0.25 abcd
TM45002 68WDG 3.50 lb.....	13.71 abc	0.12 abc
Vanguard 75WG 0.44 lb.....	14.32 abc	0.05 ab
TM45002 68WDG 5.25 lb.....	18.04 bcd	0.18 abcd
Switch 62.5WG 0.88 lb.....	18.13 bcd	0.03 a
Elevate 50WG 1.50 lb.....	18.34 bcd	0.07 ab
Scholar 50WP 0.44 lb.....	22.86 cd	0.03 a
BAS 500 20WG 0.90 lb.....	24.23 cd	0.47 cde
Captan 80WDG 3.75 lb.....	29.28 de	0.23 bcd
Oxidate 128 fl oz.....	31.78 de	0.94 e
Amistar 80WG 0.19 lb.....	43.07 e	0.81 e
Untreated check.....	30.42 de	0.52 de

\* 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 the PDIFF option in PROC MIXED ( $P \leq 0.05$ ).