

Deciduous Orchard Disease
Chemical Control
Powdery mildew of sour cherry

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EFFECT OF FUNGICIDES ON CONTROL OF POWDERY MILDEW AND FRUIT QUALITY
OF SOUR CHERRY, 1987:

Fungicides were applied to 14-15-year old sour cherry trees in a commercial orchard in Millville, Utah in 1986 and 1987. Treatments were single trees arranged in a randomized complete block with 6 replications. Trees were grown on mahaleb rootstock, spaced 20 x 20 feet. The soil was a clay loam. Temperatures were normal with below normal precipitation in 1987. Trees bloomed on the average date in 1986 and approximately two weeks ahead of normal in 1987. Mildew was first observed 13 Jun in 1986 and 26 May in 1987. Orbit (available as Tilt in 1986) and Benlate were applied as dilute spray with a handgun at 150 p.s.i. to the point of drip. Trees were sprayed with the same fungicide in 1986 and 1987. Applications in 1986 were made 12 May (late bloom), 20 May (shuck split), 4 Jun (1/2 inch fruit), 23 Jun (first color) and in 1987 14 May (shuck fall), 26 May (1/2 inch fruit), 4 Jun, and 23 Jun (first color). Ten terminals were examined on each of the trees on 19 Jul in 1986 and 23 Jul in 1987 and given a visual severity rating of 1=healthy to 4=heavy sporulation, severe leaf distortion and necrosis. One hundred fruit from each tree were weighed and then volumetrically measured in a graduated cylinder filled with water. Ease of picking was measured on 25 fruit with a pullmeter and brix was determined for 10 fruit/tree with a hand refractometer.

RESULTS

The severity of mildew was heavy in both years with the rating being similar in 1986 and 1987. Orbit and Benlate provided equivalent control of powdery mildew in both years. The untreated trees generally produced slightly larger fruit than fungicide-treated trees in both years but the difference was not as clear in 1986. Cherries treated with both fungicides showed a trend to being lighter in both years but differences were not obvious. Trees sprayed with the 2 oz. rate of Orbit were significantly easier to pick in 1986 although in 1987 the difference was not significant. Fruit from unsprayed trees was usually lower in sugar percent.

Treatment and Rate/A				Powdery* Mildew Rating	Volume/ Cherry (ml)	Weight/ Cherry (g)	Picking Pull Force (g)	Brix %
1986								
Orbit**	3.6E	4 oz	. .	1.5 a***	3.4 a	3.6 a	539 b	16.6 a
Orbit	3.6E	2 oz	. .	1.6 a	3.6 ab	3.8 ab	448 a	16.5 a
Benlate	50WP	16 oz	. .	1.6 a	3.9 b	4.0 b	607 b	16.1 a
Check.				3.5 b	3.8 b	4.0 b	561 b	15.8 a
1987								
Orbit	3.6E	4 oz	. . .	1.6 a	3.9 a	4.0 a	473 a	18.0 b
Orbit	3.6E	2 oz	. . .	1.9 a	3.8 a	4.0 a	469 a	18.6 b
Benlate	50WP	16 oz	. .	2.0 a	3.9 a	4.1 a	519 a	18.3 b
Check.				3.4 b	4.2 b	4.2 a	535 a	17.1 a

* Rating 1=healthy, 4=heavy sporulation, leaf twisting and necrosis

** Available as Tilt in 1986.

*** Numbers followed by the same letter within columns are not significantly different at $P=0.5$ according to Duncan's Multiple Range test.