

TITLE: Downy Mildew Control in Table Beets

PROJECT LEADERS: Daniel McGrath, OSU Extension, Vegetable Crops in
Marion, Polk, and Yamhill Counties
Paul Koepsell, OSU Extension, Department of Botany
and Plant Pathology

PROJECT STATUS: Continuing

PROJECT FUNDING: \$1500

OBJECTIVE: To evaluate the efficacy of registered and unregistered chemical controls of Downy Mildew of Table Beets (Peronospora schachtii) and other foliar diseases of beets.

RESULTS:

Replicated fungicide trials for control of foliar diseases of table beets were established in two commercial plantings near Junction City and one commercial planting in near Hopmere, Oregon. Eight fungicides were applied three times during the growing season at each site.

Significant disease did not occur in the two early plantings of "Detroit Dark Red" table beets sown on 5/20/88 and 5/26/88. The late planting of "Red Ace" table beets sown on 6/10/88 developed severe infection with Rust (Uromyces sp.) and Powdery Mildew (Erysiphe sp.), and a low level of leaf spot (Cercospora sp.). No downy mildew was observed.

Phytotoxicity ratings were made one to two weeks after each fungicide application. No phytotoxicity was observed. Yield data and diseases severity ratings were obtained from the late planting.

Three applications of Bravo 500, Manex II, or Kocide 101 plus crop oil provided good to adequate control of Rust. (Bravo 500 and Manex II are not currently registered on table beets.) Bravo 500 provided excellent control of Cercospora leaf spot, though disease pressure was very low. Super 6 Flowable Sulfur provided excellent control of powdery mildew while Kocide 101 plus crop oil and Bravo 500 provided good to adequate mildew control. Ridomil and Aliette did not provide additional control when applied alone or in combinations as Bravo/Ridomil WP 81 or Ridomil MZ58. No significant yield differences among the treatments were observed.

Treatment and rate/A	* Yield lb/10ft row	Size wt/beet (lb)	** %Rust	** % Mildew	*** Leaf Spot
Untreated control	25.6	.143	37.5 bc	31.2 cd	+
Bravo 500, 3 pt/A	26.6	.151	3.0 a	21.2 abc	0
Ridomil 2 EC, 2 pt/A	24.6	.136	27.5 b	27.5 bcd	+
Ridomil/Bravo 81WP, 2 lb/A	26.3	.151	3.2 a	22.5 abc	0
Manex II 4EC, 3 pt/A	24.4	.125	3.5 a	31.2 cd	+
Ridomil MZ-58WP, 2 lb/A	28.6	.152	10.5 a	28.8 bcd	+
Aliette 80WP, 2 lb/A	28.1	.159	35.0 bc	36.2 cd	+
Kocide 50WP, 4 lb/A + crop oil, 1qt/A	26.7	.158	5.5 a	10.0 ab	+
Super 6 Sulfur, 6EC, 1gal/A	26.0	.150	42.5 c	8.0 a	+
Untreated control	25.5	.132	35.0 bc	45.0 d	+
LSD P = .05	NS	NS	10.8	17.7	

* Treatments were applied three times on 8/4/88, 8/25/88, and 9/24/88. Means in vertical columns followed by the same letter are not significantly different from one another (P = .05) by the Duncan's multiple range test.

** Percentage of visible leaf surface infected.

*** + = Cercospora Leaf Spot present, 0 = no leaf spot.