

PEACH (*Prunus persica* 'Red Haven')
Peach leaf curl; *Taphrina deformans*
Shothole; *Wilsonomyces carpophilus*

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Comparison of fungicides, organic and synthetic, for control of peach leaf curl and shothole, 2004.

Treatments were arranged in a randomized complete block design in a block of 'Red Haven' peaches planted in 1971 on a 20 x 20 ft spacing. Each fungicide treatment consisted of 4, single tree replicates. Fungicides were applied using a hydraulic handgun sprayer at 150 psi and at a rate of 300 gal water/A. Approximately 8 gal of a spray suspension were applied per treatment. Dormant treatments were applied on 7 Nov 03 (70% leaf drop), 11 Dec 03, 13 Jan 04, and 12 Feb 04 (delayed dormant). Glystar (3 qt/A) tank mixed with Goal 2XL (3 qt/A) was applied on 22 Oct 03 and Oryzalin 4AS (1.6 qt/A) was applied on 11 Mar 04 for weed control. All herbicide rates are based on in the tree row area. The number of shoots with shothole twig cankers out of 100 randomly selected was determined on 14 Apr 04. Incidence of dead buds per 100 terminals was determined for each tree on 28 Apr 04. Incidence of dead buds per 20 lateral shoots was determined for each tree on 30 Apr 04. Incidence of peach leaf curl was evaluated on 3 and 5 May 04 by examining 200 lateral buds and 71 to 100 terminal shoots randomly selected from each tree.

The overall dormant season rainfall was normal, however, rainfall during December was 3.22 inches above normal. Symptoms of shothole as stem cankers were first noted on 5 Apr but may have occurred much earlier. Almost all shoots showed some leaf curl on nontreated trees. All fungicide treated trees had significantly less peach leaf curl than nontreated trees. Lowest amount of leaf curl on terminal or lateral shoots was on trees treated organically (Lime Sulfur and Kocide). All other treatments were not significantly different from organically treated trees except trees only treated twice with Kocide. All fungicide treated trees had significantly less bud death than nontreated trees except for terminal buds on trees only treated twice with Kocide. Organically treated trees also had the lowest terminal or lateral bud death. Trees treated with 4 lb/A Ziram had significantly more terminal or lateral bud death than organically treated trees. All fungicide treated trees had significantly fewer shoots with shothole twig cankers than nontreated trees. Trees treated with Echo and lime sulfur or Echo and Kocide had the fewest shoots with shothole twig cankers. Trees treated with 4 lb/A Ziram or just twice with Kocide had significantly more shothole cankers than trees treated with Echo and lime sulfur or Kocide. Although not significant, trees treated twice with only 4 lb/A Ziram had elevated levels of disease when compared to trees treated twice with 8 lb/A Ziram. Another year of testing is needed to adequately evaluate the potential of reducing rates of Ziram for dormant peach disease control. Organically treated trees had as little disease if not less than trees treated with other fungicides.

Treatment & Rate/A	Application Timing**	% Peach Leaf Curl*		% Dead Terminal buds*	% Dead Lateral buds*	Shothole Twig Cankers (%)
		Infected Terminal Shoots	Infected Lateral Shoots			
Nontreated	None.....	97.3 a	92.8 a	45.3 a	62.8 a	84.3 a
Ziram 76 DF 8 lb	A and D.....	4.5 c	1.6 c	16.5 cd	25.4 cd	8.8 bc
Ziram 76 DF 6 lb	A and D.....	7.0 c	4.9 c	14.0 cd	27.4 cd	5.0 bc
Ziram 76 DF 4 lb	A and D.....	13.0 c	10.8 c	25.5 bc	36.5 bc	14.8 b
Ziram 76 DF 4 lb	A, B, C & D.	10.3 c	0.9 c	16.5 cd	32.1 cd	5.0 bc
Echo 720 at 4 pt.....	A, B, C & D.	4.5 c	1.3 c	14.0 cd	31.3 cd	6.3 bc
Lime Sulfur (29%) 20 gal	A and D					
Kocide 2000 12 lb	B and C.....	0.8 c	0.5 c	3.5 d	23.0 d	5.5 bc
Lime Sulfur (29%) 20 gal	A and D.....	4.0 c	3.4 c	12.5 cd	33.2 cd	12.5 bc
Kocide 2000 12 lb	B and C.....	70.8 b	68.0 b	34.8 ab	47.8 b	16.0 b
Lime Sulfur (29%) 20 gal	A and D					
Echo 720 at 4 pt.....	B and C.....	2.8 c	0.9 c	8.8 d	26.1 cd	2.8 c
Echo 720 at 4 pt.....	A and D					
Kocide 2000 12 lb	B and C.....	6.8 c	1.8 c	8.0 d	26.9 cd	1.5 c

* Means followed by the same letter do not differ significantly based on Fisher's protected LSD (P=0.05).

** A = 7 Nov 03 (70% leaf drop), B = 11 Dec 03, C = 13 Jan 04, and D = 12 Feb 04 (delayed dormant).