

PEACH (*Prunus persica* 'Improved Elberta')
Bassinette

Leaf Curl; *Taphrina deformans*

Shothole; *Thyrostroma carpophilum* (former *Wilsonomyces carpophilus*)

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Efficacy of fungicides for management of peach diseases, 2016.

Fungicide treatments were arranged in a randomized complete block design in an orchard of 'Improved Elberta' peaches planted in 1984 on 20 x 20 ft spacing. Each treatment consisted of 5 single tree replicates. Fungicide treatments were applied using a hydraulic handgun sprayer at approximately 100 psi such that 6 gal of a spray suspension was applied per 5 trees (131 gal/A). Treatments were applied on 4 Nov 15 (50% leaf fall), 1 Dec 15 (100 % leaf fall), 22 Jan 16 (Dormant), and 16 Feb 16 (tight buds). No fertilizer was spread within tree rows. Also, no insecticides were applied. Alion (4 fl oz/A) plus Makaze (16 fl oz/A) were applied on 9 Feb 16 and Forefit 280 (1.25 fl oz/gal) was applied on 19 Apr 16 for weed management. The incidence of leaf curl was determined from 4 to 5 Apr 16, by examining all leaves from 50 arbitrarily selected terminal shoots and 20 arbitrarily selected lateral shoots (208 to 255 leaves with an average of 230) from each tree. The incidence of shothole was also determined from 4 to 5 Apr 16, by examining all leaves from 50 arbitrarily selected terminal shoots from each tree. Incidence of shothole on fruit was determined on 6 Jun 16 by examining 100 fruit arbitrarily selected from each tree.

Dormant season conditions were considered close to normal in rainfall and temperatures. Spring growing conditions, however, were considered warmer and dryer than normal with several heat spikes including 83 F on 7 Apr 16, 85 F on 18 Apr 16, 87 F on 2 May 16 and 95 F on 4 Jun 16. Conditions resulted in accelerated tree growth 2 to 3 weeks ahead of average. Symptoms of leaf curl were first found on 7 Mar 16. Shothole symptoms were widely scattered with a few dead buds found on 15 Feb 16, purple stem lesions on 7 Mar 16 and fruit lesions first found on 23 May 16. All leaves on non-treated trees had symptoms of leaf curl but the number of leaves with leaf curl on trees treated with Monterey Liqui-Cop were not significantly different. The number of leaves on terminal shoots with leaf curl on trees treated with Ortho MAX Garden Disease Control was not significantly different than the number found on non-treated trees. The lowest number of leaves with leaf curl were found on trees treated with Ziram. The number of leaves on lateral shoots with leaf curl on trees treated with Lime Sulfur was not significantly different than the number found on trees treated with Ziram. All fungicide-treated trees had significantly fewer leaves with symptoms of shothole than non-treated trees. There were no significant differences in leaves with symptoms of shothole among the various fungicide treatments. Although there were no fungicide applications specifically for management of shothole on fruit at bloom and shuck split, there were significant differences among the treatments that had fruit. Trees left non-treated or treated with Monterey Liqui-Cop did not have fruit to evaluate. Trees treated with Ziram had the lowest number of fruit with shothole but the number of fruit on trees treated with either Badge material was not significantly different. No phytotoxicity was observed on any trees treated with any material.

Treatment & Rate/A or /gal as indicated below**	% Leaf Curl*		% Shothole*	
	Terminal Shoots	Lateral Shoots	Leaf Incidence	Fruit Incidence
Non-treated.....	100 a	100 a	24.8 a	---
LimeSulfur (29%) at 10 gal/A...	30.0 d	3.2 d	1.2 b	45.4 b
Ziram 76 DF at 6 lb/A.....	7.2 e	0.1 d	0.4 b	15.8 c
Monterey Liqui-Cop at 0.67 fl oz/gal..	100 a	97.4 a	7.0 b	---
Ortho MAX Garden Disease Control at 0.156 fl oz/gal water.....	88.0 ab	25.3 b	8.4 b	73.0 a
Badge X2 at 10 lb/A.....	74.8 bc	17.4 c	2.8 b	21.0 bc
Badge SC at 1.25 gal/A.....	60.4 c	11.4 c	1.2 b	28.4 bc

--- = No Fruit to evaluate.

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

** Fungicides were applied on 4 Nov 15 (50% leaf fall), 1 Dec 15 (100 % leaf fall), 22 Jan 16 (Dormant), and 16 Feb 16 (tight buds).