

PEACH (*Prunus persica* 'Suncrest')  
Leaf Curl; *Taphrina deformans*  
Brown Rot Blossom Blight and Fruit Rot; *Monilinia* spp.

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### **Efficacy of fungicides for management of peach brown rot, 2016.**

Fungicide treatments were arranged in a randomized complete block design in an orchard of 'Suncrest' peaches planted in 2010 on 20 x 20 ft spacing. Each treatment consisted of 6 single tree replicates. Fungicide treatments during bloom were applied using a hydraulic handgun sprayer at approximately 100 psi such that 5 gal of a spray suspension was applied per 6 trees (91 gal/A). Preharvest fungicide treatments were applied such that 6 gal of a spray suspension was applied per 6 trees (109 gal/A). Treatments were applied on 2 Mar (pink), 8 Mar (full bloom), 23 Mar (late bloom, early petal fall), 1 Apr (petal fall), and 22 Jul (preharvest). Fungal infection periods were monitored using an Adcon A730 weather station equipped with standard sensors. According to a brown rot blossom blight risk model there were 5 infection risk periods detected on 4, 5, 8, 20 and 26 Mar. No fertilizer was spread within tree rows and no insecticides were applied. The entire block was sprayed with Ziram 76 DF (8 lb/A) on 26 Oct 15 and 10 Feb 16 for management of leaf curl. Alion (4 fl oz/A) plus Makaze (16 fl oz/A) were applied on 9 Feb for weed management. Whole trees were rated for leaf curl 15 Apr using a scale from 1 to 3 where 1 = 0 to 10% of the leaves had leaf curl, 2 = 11 to 20% and 3 = > 20% leaves with leaf curl. The number of brown rot stem cankers was determined on 15 Apr by examining 20 arbitrarily selected shoots from each tree. On 25 Jul, 40, arbitrarily selected, healthy appearing fruit were harvested from each tree. Peaches were placed into thin plastic insert trays and incubated in plastic bags at ambient garage temperature for 11 days. The number of peaches with symptoms of brown rot were evaluated and removed each day. Fruit rotting from other causes were noted and also removed from the moist chambers daily.

Spring growing conditions were considered warmer and dryer than normal with several heat spikes including 83°F on 7 Apr, 85°F on 18 Apr, 87°F on 2 May, and 95°F on 4 Jun. Conditions resulted in accelerated tree growth 2 to 3 weeks ahead of average. Although light overall, peach leaf curl was observed increasing on newer leaves on 11 Apr. Brown rot blossom blight cankers were first observed on 5 Apr and brown rot fruit rot was first observed on 25 Jul. Trees non-treated with fungicide during bloom had the highest peach leaf curl rating. Only trees treated with different fungicides during bloom (Elevate/Captan rotated with Indar/Fontelis) had significantly lower leaf curl ratings. Trees treated with fungicide during bloom had significantly fewer brown rot cankers per tree than non-treated trees. There were no significant differences in the number of brown rot cankers per tree among the various fungicide treatments. The majority of harvested fruit rotted from brown rot rather than from other diseases. Trees treated with multiple fungicides during bloom and preharvest (Elevate/Captan rotated with Indar/Fontelis) had the lowest post harvest fruit rot, however, the amount of fruit rot from trees treated with either rate of Mettle-ME was not significantly different. No phytotoxicity was observed in trees treated with any of the various materials used.

Treatment & Rate/A or /100 gal as indicated below	Time of Application <sup>Z</sup>	Leaf Curl Rating <sup>Y,X</sup>	Brown Rot <sup>X</sup>	
			# of Cankers/Tree	Total Post Harvest Fruit Rot (%)
Non-treated.....	None.....	2.8 a	4.5 a	89.6 a
Elevate 50 WDG at 1 lb plus Captan 80 at 3 lb alternate Indar 2F at 6 fl oz plus Fontelis at 15 fl oz .....	A, C B, D, E.....	1.0 b	0.2 b	49.6 c
Torino SC at 6 fl oz plus Nu-Film-P at 16 fl oz/100 gal	All .....	2.8 a	1.0 b	92.1 a
Torino SC at 9 fl oz plus Nu-Film-P at 16 fl oz/100 gal	All.....	2.3 a	1.2 b	87.1 a
Torino SC at 12 fl oz plus Nu-Film-P at 16 fl oz/100 gal	All.....	2.5 a	1.0 b	79.2 ab
Mettle-ME at 10 fl oz plus Nu-Film-P at 16 fl oz/100 gal	All.....	2.5 a	0.2 b	60.8 bc
Mettle-ME at 15 fl oz plus Nu-Film-P at 16 fl oz/100 gal	All.....	2.7 a	0.0 b	65.8 bc

<sup>Z</sup> Treatments were applied on A = 2 Mar (pink), B = 8 Mar (full bloom), C = 23 Mar (late bloom, early petal fall), D = 1 Apr (petal fall), and E = 22 Jul (preharvest). Note that Nu-Film-P was not added to Torino or Mettle treatments during the first (2 Mar) application.

<sup>Y</sup> Whole trees were rated for leaf curl using a scale from 1 to 3 where 1 = 0 to 10% of the leaves had leaf curl, 2 = 11 to 20% and 3 = > 20% leaves with leaf curl.

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