

Efficacy of organic fungicides for management of peach brown rot, 2017.

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 were applied using a hydraulic handgun sprayer at approximately 110 psi such that 3 to 6 gal of a spray suspension was applied per 6 trees (54 to 109 gal/A) depending on tree growth. Treatments were applied on 23 Mar (pink), 31 Mar (full bloom), 9 Apr (late bloom, early petal fall), 16 Apr (petal fall), 23 Apr (almost shuck split) and 15 Aug (preharvest). Fungal infection periods were monitored using an Adcon weather station equipped with standard sensors. According to a brown rot blossom blight risk model there were 4 infection risk periods detected on 6, 16, 19 and 23 Apr. No fertilizer was spread within tree rows and no insecticides or herbicides were applied to the block. Trees were not pruned. The entire block was sprayed with Ziram 76 DF (9.4 lb/A) on 25 Oct 16 and 12 Feb 17 for management of leaf curl. The number of brown rot stem cankers per entire tree was determined on 30 May. On 16 Aug, up to 50, arbitrarily selected, healthy appearing fruit were harvested from each tree. Due to poor fruit set and pilfering, fruit from trees in replicates 5 and 6 were used to fill in for other replicates as needed to obtain 4 (rather than 6) replicates total. Peaches were placed onto plastic trays then into new, clear plastic garbage bags and incubated in an open metal equipment shed at ambient temperature (62 to 82°F) for 5 days. The number of peaches with symptoms of brown rot fruit rot were evaluated and removed each day. Fruit rotting from other causes were noted and also removed from the moist chambers daily.

Spring weather conditions for 2017 were considered cool and wet but with more normal plant growth relative to time of year. Brown rot blossom blight cankers were first observed on 17 Apr and brown rot fruit rot was first observed on 14 Aug. In addition to brown rot the following fungi were also observed on rotting fruit post harvest at highly variable frequencies: *Rhizopus* sp. There was no significant difference in brown rot blossom blight per tree between trees treated with GWN-10320 plus Nu-Film-P and non-treated trees. Trees treated with Microthiol Disperss had the lowest brown rot blossom blight. There was no significant difference in brown rot fruit rot between any of the various treatments. Trees treated with GWN-10320 plus M-Pede developed marginal necrosis on flower petals on 3 Apr. This may have contributed to a noticeable yield reduction at harvest where all GWN-10320 plus M-Pede treated trees had fewer fruit than other trees.

Treatment & Rate/A or /100 gal as indicated below	Brown Rot ^x	
	# of Cankers/Tree	Total Post Harvest Fruit Rot (%)
Non-treated.....	12.2 a	50.0
Microthiol Disperss at 15 lb.....	1.8 c	18.5
GWN 10320 SC at 1 pt plus Nu-Film-P at 16 fl oz/100 gal..	8.0 ab	43.0
GWN 10320 SC at 2 pt plus Nu-Film-P at 16 fl oz/100 gal..	9.8 ab	56.5
GWN 10320 SC at 1 pt plus M-Pede at 2 gal/100 gal.....	7.3 b	---

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

Means without letters did not differ significantly.

--- = Not enough fruit to evaluate.