

2011 WTFRC CHERRY PESTICIDE RESIDUE STUDY



Pristine application 1 day before harvest



Cherry hydrocooler (130 second cycle)

In cooperation with representatives of the Washington, Oregon, California, and British Columbia sweet cherry industries, the Washington Tree Fruit Research Commission (WTFRC) recently conducted a trial in a commercial cherry orchard near Shafter, CA. Three insecticides and two fungicides were applied using typical industry spray equipment at full label rates at minimum pre-harvest intervals. Cherries were sampled at harvest with half of the fruit being rinsed in a standard commercial hydrocooler cycle. Fruit samples were delivered to a Portland, OR lab for residue analysis 28 hours after harvest. This project was designed to complement a more extensive concurrent project led by UC Extension Entomologist David Haviland to establish residue decline curves for six insecticides which may be used against Spotted Wing Drosophila (*D. suzukii*); a report for that study is available at www.treefruitresearch.com.

TRIAL DETAILS

- 20 year old 'Brooks'/Mahaleb, 4-leader open vase, 16' x 16' spacing
- 500 gal Rears PTO-driven airblast sprayer calibrated to 200 gal/acre
- Ceramic nozzles with swirl plates (larger diameters targeting tree tops)
- Fruit in middle (3rd) bin of 5 bin stack for 130 second hydrocooler cycle
- No overhead irrigation for duration of trial, however, approximately 0.25" of rain was recorded from a single storm the evening before harvest

No application of Diazinon 50W, Nuprid 2F, Quintec, or Pristine at maximum label rates and minimum preharvest intervals produced detectable residues that exceeded 1/3 the allowable limit for domestic or export cherries. Conversely, application of **Sevin 4F** at either 17 or 3 days before harvest produced fruit that **exceeded Maximum Residue Levels (MRLs)** for European markets; unwashed fruit sprayed with Sevin 4F 3 days before harvest also exceeded posted MRLs for Korea and Taiwan (1 ppm). For more information on MRLs, visit the Northwest Horticultural Council website, www.nwhort.org.

****Results of this lone unreplicated trial are shared for informational purposes only and should not be construed as endorsements of any product, reflections of their efficacy against any insect or fungal pest, or a guarantee of similar results regarding residues for any user. Cherry growers should consult with their university extension staff, crop advisors, and warehouses to develop responsible pest control programs.**

Measured residue levels vs. MRLs for pesticides applied to cherries. 'Brooks'/Mahaleb, Shafter, CA. WTFRC 2011.

Common name	Trade name	Application rate ¹	Application timing(s)	Field run fruit	Hydrocooled fruit	US MRL ²	Lowest export MRL ³
		per acre	days before harvest	ppm	ppm	ppm	ppm
Diazinon	Diazinon 50W	2 lbs	21	<0.01	<0.01	0.2	0.01 (EU)
Carbaryl	Sevin 4F	96 oz	17	0.86	0.23	10	0.05 (EU)
Carbaryl	Sevin 4F	96 oz	3	5.10	0.79	10	0.05 (EU)
Imidacloprid	Nuprid 2F	8 oz	17	<0.01	<0.01	3	0.5 (many)
Imidacloprid	Nuprid 2F	8 oz	7	0.13	0.14	3	0.5 (many)
Quinoxifen	Quintec	7 oz	17	<0.01	<0.01	0.7	0.3 (EU, Can)
Quinoxifen	Quintec	7 oz	7	0.047	0.018	0.7	0.3 (EU, Can)
Boscalid	Pristine	14.5 oz	7 and 1	0.28	0.092	3.5	1 (Korea)
Pyraclostrobin	Pristine	14.5 oz	7 and 1	0.05	0.064	2.5	0.7 (Canada)

¹ Materials applied with Rears airblast sprayer at 200 gal water/acre

² 17 May 2011. <http://www.nwhort.org/CherryMRLs.html>

³ Major export markets for Pacific Northwest cherries; 17 May 2011. <http://www.nwhort.org/CherryMRLs.html>

For more information, contact Tory Schmidt (509) 669-3903 or email tory@treefruitresearch.com

