

2025 WTFRC CHERRY PESTICIDE RESIDUE STUDY

Since 2011, the WA Tree Fruit Research Commission has conducted annual studies of residues of commonly used pesticides on cherry fruit at harvest. Digital versions of this report and similar studies on apple and cherry including comprehensive summaries of multiple years' results are available at www.treefruitresearch.org. For current information on maximum residues levels (MRLs) and other regulatory issues, please consult the Northwest Horticultural Council website at <https://nwhort.org/export-manual/>.

Spraying trial block at
200 gal/acre



TRIAL DETAILS

- Trial conducted in mature 'Skeena'/K.6 central leader trees on 10' x 16' spacing near East Wenatchee, WA
- 15 insecticides/acaricides, 3 fungicides, and 1 plant growth regulator were applied at or near maximum rates and minimum pre-harvest and re-treatment intervals; products were applied twice as allowed by product labels
- Applications made by Rears PakBlast PTO-driven airblast sprayer with 8 oz non-ionic surfactant (Regulaid)/100 gal water at 200 gal water/acre
- Roughly 0.01" of rain fell on the trial block on June 21; this precipitation likely did not affect residues on the fruit
- Fruit samples shipped overnight to Pacific Agricultural Labs (Sherwood, OR) for standard residue analysis and OMIC USA Laboratory (Portland, OR) for analysis of prohexadione calcium residues

RESULTS & DISCUSSION

Through the years, the primary objective of these studies has been to simulate a *worst case scenario* for residues of legally applied pesticides by using aggressive rates, timings, and spray intervals. As in the past, most materials were applied twice as allowed by product labels, whether or not typical commercial use patterns would do the same. With that approach, **all 2025 residues complied with domestic tolerances but some exceeded foreign MRLs for important export markets: Kudos 27.5WDG, Bexar, Esteem, Asana XL, Nealta, Torino, and Carbaryl 4L.**

While residue levels for prohexadione calcium (Kudos 27.5WDG) in this study are concerning, it should be noted that prohexadione products are rarely, if ever, applied at these late timings; residues from plots sprayed at at more typical industry rates and timings were found to be considerably lower in a separate 2025 WTFRC trial to evaluating various prohexadione calcium programs on Sweetheart cherries. Those results may be found in a supplemental summary focused on prohexadione calcium residues available at www.treefruitresearch.org.

MRLs are known to change frequently and cherry producers should routinely monitor the most current information (<https://nwhort.org/export-manual>) to facilitate compliance with constantly evolving foreign standards.

Dried residues on cherries
at harvest



Measured residue levels vs. MRLs for pesticides applied to cherry fruit at 200 gal water/acre. 'Skeena'/K.6, East Wenatchee, WA. WTFRC 2025.

Common name	Trade name	Application rate ¹	Application timing(s)	Measured residue	US tolerance ²	Lowest export tolerance ²
		<i>per acre</i>	<i>days before harvest</i>	<i>ppm</i>	<i>ppm</i>	<i>ppm</i>
prohexadione calcium	Kudos 27.5WDG	20 oz	35, 21	0.40	0.4	0.01 (THA)
tolfenpyrad	Bexar	27 oz	28, 14	0.39	2	0.01 (many)
pyriproxyfen	Esteem	16 oz	28, 14	0.48	1	0.01 (THA)
thiamethoxam*	Actara	5.5 oz	21, 14	0.183	0.5	0.5 (many)
esfenvalerate	Asana XL	14.5 oz	21, 14	0.17	3	0.01 (THA)
lambda-cyhalothrin	Warrior II	2.56 oz	21, 14	0.17	0.5	0.3 (many)
chlorantraniliprole	Altacor eVo	2.2 oz	21, 11	0.11	2.5	0.5 (KOR)
cyflumetofen	Nealta	13.7 oz	21, 7	0.15	1.5	0.02 (AUS)
quinoxifen	Quintec	8.7 oz	21, 7	0.055	0.7	0.4 (many)
cyclaniliprole	Verdepryn 100SL	11 oz	14, 7	0.082	1	0.6 (TWN)
cyflufenamid	Torino	8 oz	14, 7	0.097	0.6	0.01 (THA)
flonicamid	Beleaf 50SG	2.8 oz	14, 7	0.28	0.6	0.6 (many)
emamectin benzoate	Proclaim	4.8 oz	14, 7	<0.01	0.09	0.005 (THA)
carbaryl	Carbaryl 4L	96 oz	11, 4	3.1	10	0.01 (THA)
zeta-cypermethrin	Mustang Maxx	4 oz	11, 4	0.26	2	1 (KOR)
spinosad	Entrust SC	6.8 oz	11, 4	0.021	0.2	0.2 (many)
pydiflumetofen	Miravis	5.1 oz	11, 1	0.15	2	2 (many)
mefentrifluconazole	Cevya	5 oz	11, 1	0.30	4	1.5 (TWN)
hexythiazox	Onager	24 oz	7	0.17	1	0.2 (KOR)
pyrethrins	Pyganic 5.0EC	15.6 oz	4, 1	<0.05	1	0.01 (THA)

¹ All materials were applied by Rears PakBlast sprayer with 8 oz Regulaid/100 gal water

² Major export markets for Pacific Northwest cherries; 29 July 2025. http://mrl.db.nwhort.org/#top_markets

* Reported thiomethoxam values reflect sum total of thiomethoxam and clothianidin residue levels

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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 arthropod or fungal pest, or a guarantee of similar results regarding residues for any user. Cherry growers should consult with extension team members, crop advisors, and warehouses to develop responsible pest control programs.