

**FINAL PROJECT REPORT****YEAR: 3 of 3****Project Title:** Pesticide residues on WA cherries**PI:** Tory Schmidt**Organization:** WTFRC**Telephone:** (509) 665-8271 x4**Email:** tory@treefruitresearch.com**Address:** 1719 Springwater Ave.**City/State/Zip:** Wenatchee, WA 98801**Cooperators:** Gerardo Garcia, Sandy Stone, Pacific Agricultural Labs, Northwest Hort Council, Doug Stockwell, Doyle Smith, various ag chemical companies**Total Project Request:**            **Year 1:** \$4349            **Year 2:** \$5450            **Year 3:** \$5620

**Other funding sources:**            **Awarded**  
**Amount:**                            **Chemical supplies**  
**Agency Name:**                   **Various ag chemical companies**  
**Notes:**                               **Registrants typically donate chemicals to be tested**

**WTFRC Budget**

<b>Item</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
<b>Salaries</b>			
<b>Benefits</b>			
<b>Wages<sup>1</sup></b>	1269	1350	1400
<b>Benefits<sup>1</sup></b>	680	700	720
<b>RCA Room Rental</b>			
<b>Shipping<sup>2</sup></b>	300	300	300
<b>Supplies/Chemicals</b>	300	300	300
<b>Travel<sup>3</sup></b>	800	800	900
<b>Plot Fees</b>			
<b>Analytical lab fees</b>	4000-1000*	2000	2000
<b>Total gross costs</b>	<del>7349</del> 4,349*	5,450	5,620
<b>Anticipated Income (contracts and gift grants)</b>	0	0	0
<b>Total net costs</b>	<del>7349</del> 4,349*	5,450	5,620

**Footnotes:** Schmidt estimates 8% of his time is dedicated to this project on an annual basis

Most pesticides tested are donated by their registrants or an ag chemical supply company

1 Wages &amp; benefits primarily for Garcia (spray applications), crew help for Garcia, and Stone (data entry &amp; review)

2 Est. costs to ship cherries overnight to Sherwood, OR

3 Travel costs include hauling equipment to &amp; from plots

\*Note: actual lab fees were less than projected in the original budget (\$4000) due to simplified trial protocol

## 2022 SUMMARY

In 2022, sixteen different pesticides were applied successfully by WTFRC staff to commercial Skeena block near Orondo, WA for analysis of residue levels at harvest. Fruit samples were collected on June 30, packaged, and shipped to Pacific Agricultural Labs (PAL) in Sherwood, OR; unfortunately, those shipments which were packed in blue ice in insulated containers and designated for overnight delivery to the lab did not arrive at their destination until 6 days later at which point the temperature inside the container had risen to ambient levels (~75F) for an undeterminable time. This disruption of the cold chain triggered the breakdown of chemical residues on the fruit surface and fatally compromised the results of the subsequent analysis.

In an attempt to potentially salvage some value from the situation, we shipped a redundant set of fruit samples that were collected at the same harvest date from the same trees to PAL for analysis. Unfortunately, by the time the problem was discovered, and the second fruit sample was prepared and packaged, the shipment was delayed several days by staffing and technical issues at the shipping company. As a result, even though the cold chain was preserved for the second shipment, it did not arrive at PAL until 12 days after they had been harvested, meaning that the results of that residue analysis would also be compromised.

PAL did ultimately analyze both sets of samples but due to the shipping issues described above, interpretation of the results is highly problematic. In general terms, we found that residue levels tended to be higher in the first sample group indicating that despite loss of the cold chain, most residues were degraded more significantly by the additional 7 days of delay in the timing of extractions made during sample processing. One notable exception was carbaryl which showed higher residues in the second set of samples, suggesting that this particular compound may be more likely to break down in warm temperatures than other chemistries.

After consultation with several colleagues, we decided to withhold our 2022 results due to concerns about potential misinterpretation of the data by people who might not fully understand or be aware of the complicating circumstances that have confounded our results. Individuals who would like access to the actual results are welcome to contact the PI ([tory@treefruitresearch.com](mailto:tory@treefruitresearch.com)) who can provide proper context before potentially sharing the results.

As always, previous project reports and long-term summaries of our cherry residue studies are available at [www.treefruitresearch.org](http://www.treefruitresearch.org).