

Pear IPM Case Study: Honeydew Washing at SC Orchards

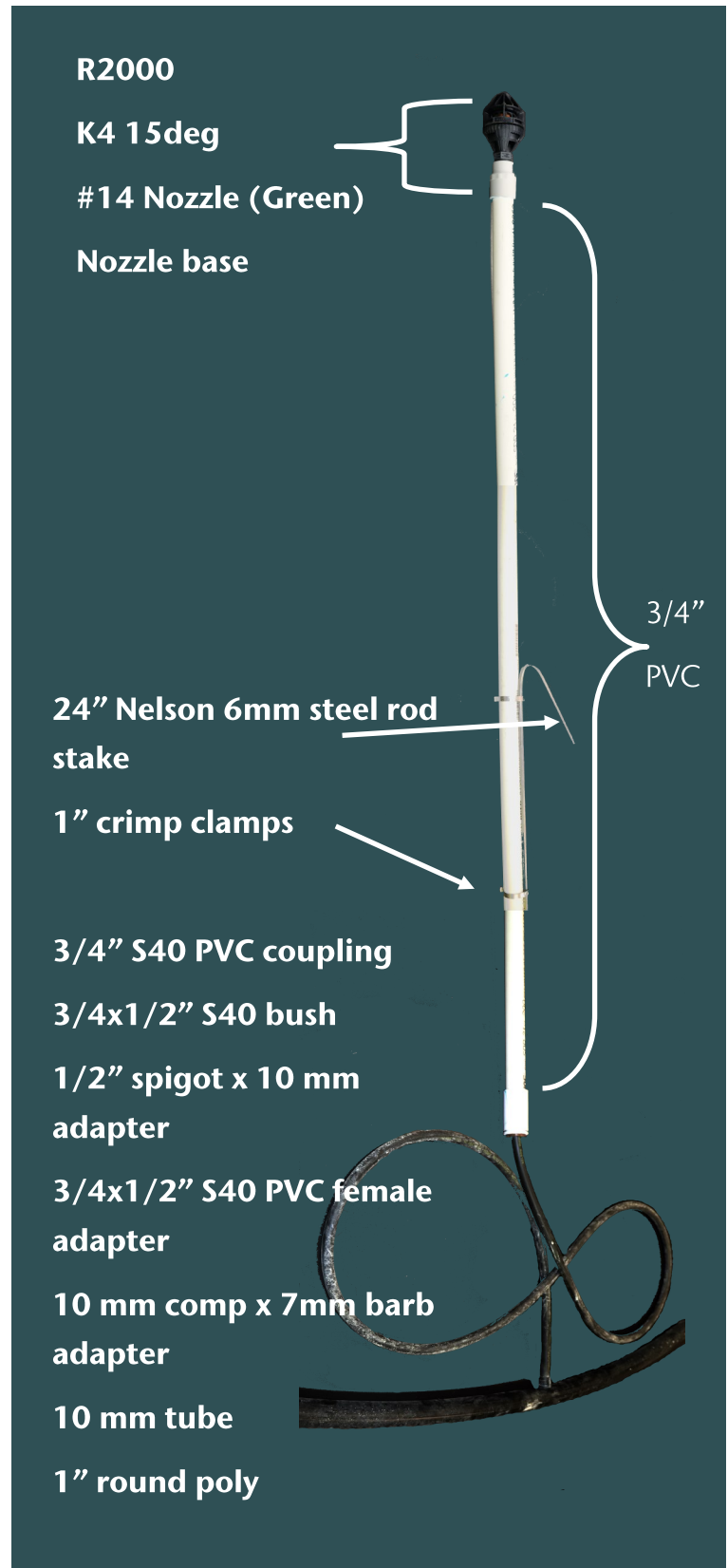
By Tianna DuPont, Chris Strohm, WSU Extension; Louis Nottingham, WSU Entomology

Honeydew washing systems offer another tool for the pear IPM toolbox. The following case study is one example of a honeydew washing system used to reduce pear fruit marking in combination with a full IPM program.



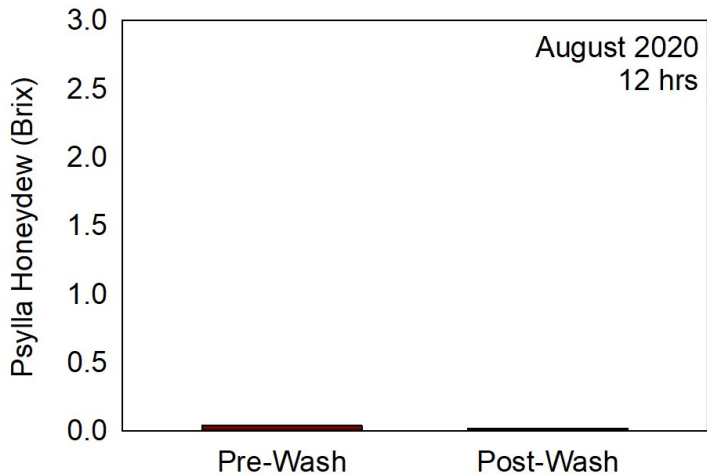
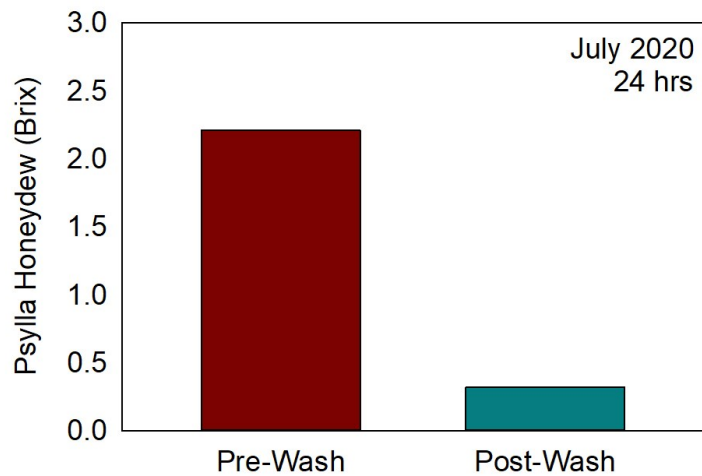
System Specifications

- 75 GPM/Acre
- 0.16 in/hr
- Tree spacing 10' x 20'
- Sprinkler spacing 30' x 40'
- Sprinkler head: R2000 K4 15deg #14 Nozzle (Green)
- Tie Into Existing 3/4" valve risers
- Installed 2020



Pear IPM Case Study: Honeydew Washing at SC Orchards

Impacts



Costs

- Parts- \$760 per acre
- Labor- \$180 per acre
- **Total- \$940 per acre**

Grower comments

- In 2020, we did two 24-hour sets after install then switched to 12 hour sets for washing and irrigation. Trees were allowed 2-3 days drying before spraying.
- Washing improved organic and conventional pesticide efficacy against psylla by removing “honeydew armor”.
- The cold water from washes also appeared to keep mite populations low.



Pear IPM Case Study: Honeydew Washing at Kiehn Orchards

By Chris Stroh, Tianna DuPont, WSU Extension; Louis Nottingham, WSU Entomology

Honeydew washing systems offer another tool for the pear IPM toolbox. The following case study is one example of a honeydew washing system used to reduce pear fruit marking in a conventionally managed orchard.



System Specifications

- 50 - 65 GPM/Acre
- 0.11 - 0.14 in/hr
- Tree spacing 10' x 20'
- Sprinkler spacing 60 x 40'
- Sprinkler heads: mix of R2000 / Rainbird
- Under-tree to over-tree switch in July
- Installed 2018



R2000 / Rainbird

K4 15deg

#14 Nozzle (Green)

No base

10' PVC (1/2")

24" Nelson 6MM

steel rod stake

3/4" crimp clamps

10 mm tube

3/4" S40 PVC coupling

3/4" S40 PVC Cap

1/2" spigot x 10 mm adapter

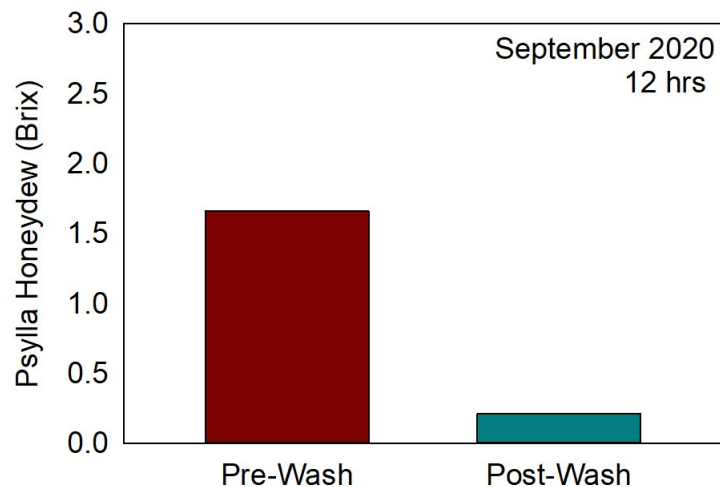
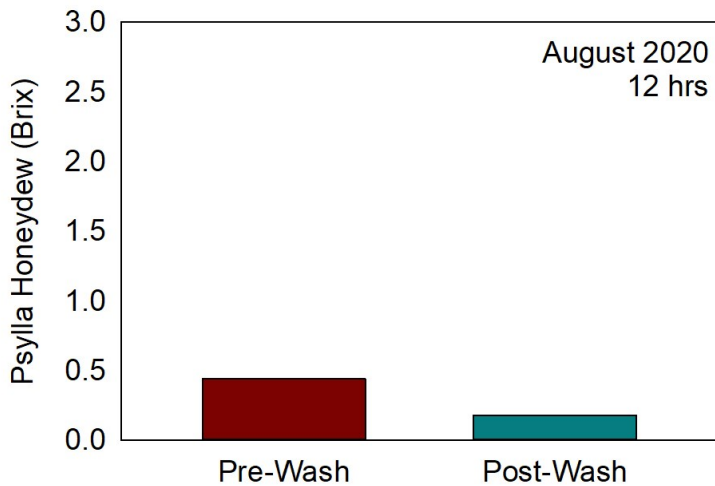
1/2" S40 PVC female adapter

1/2" barb adapter



Pear IPM Case Study: Honeydew Washing at Kiehn Orchards

Impacts



Costs

- Parts— \$480 per acre
- Labor— \$180 per acre
- **Total— \$660 per acre**

Grower comments

- Installed 2018 in problem area for psylla.
- We use this as a targeted system for honeydew during the late summer period leading to harvest.
- In years when psylla gets out of control, this system is saving our workers and our fruit quality.
- ~50% grower returns can be lost from bad psylla marking.
- We believe our wash is removing honeydew bubbles around the insects and improving spray efficacy several days later.



Pear IPM Case Study: Honeydew Washing at Schmitten Orchards

By Chris Strohm, Tianna DuPont, WSU Extension; Louis Nottingham, WSU Entomology

Honeydew washing systems offer another tool for the pear IPM toolbox. The following case study is one example of a honeydew washing system used to reduce pear fruit marking in a conventionally managed orchard.



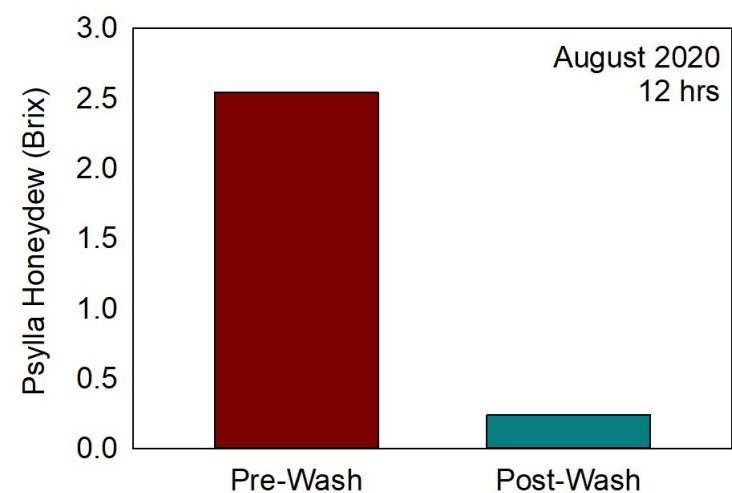
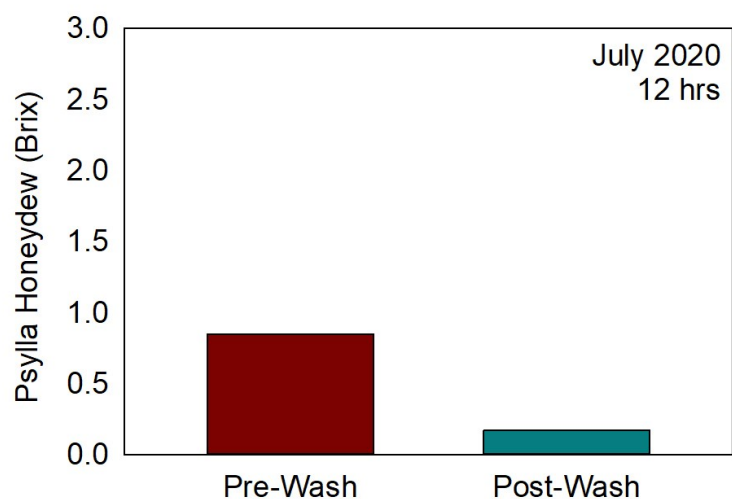
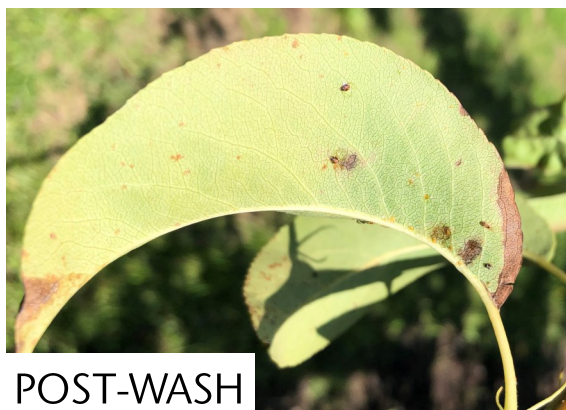
System Specifications

- 60 - 70 GPM/Acre
- 0.13 - 0.15 in/hr
- Tree spacing 10' x 20'
- Sprinkler spacing 40 x 24'
- Sprinkler heads: mix of R2000 / Rainbird
- Dual system, valves switch between under-tree or over-tree
- Installed 2018



Pear IPM Case Study: Honeydew Washing at Schmitten Orchards

Impacts



Grower comments

- If there is a definite honeydew problem, the system is on for 8-12 hours.
- Shorter sets (6 hours) are used when honeydew is not problematic.
- I believe we are doing 1 less spray due to washing. That's saving us \$300-600/acre. The system pays for itself within 2 years.
- I want to get away from using as many pesticides as we do, if I can use the force of water to manage psylla that is a good alternative.

Costs

- Parts— \$900 per acre
- Labor— \$200 per acre
- **Total— \$1100 per acre**



Pear IPM Case Study: Honeydew Washing at Gale Orchards

By Chris Strohm, Tianna DuPont, WSU Extension; Louis Nottingham, WSU Entomology

Honeydew washing systems offer another tool for the pear IPM toolbox. The following case study is one example of a honeydew washing system used to reduce pear fruit marking in a conventionally managed orchard.



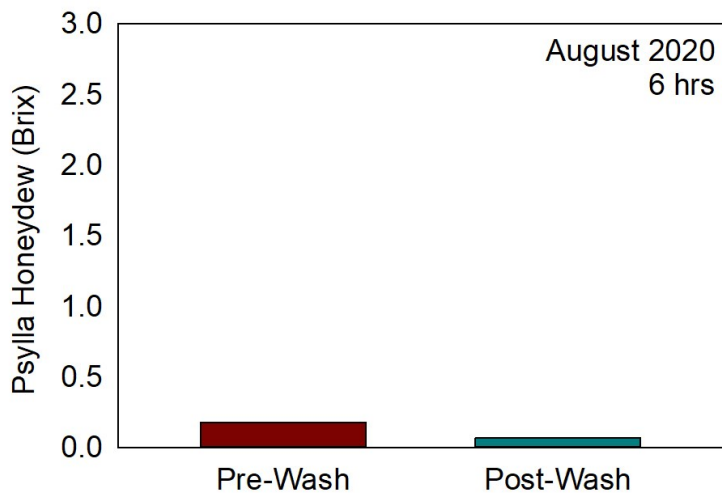
System Specifications

- 80 GPM/Acre
- 0.21 in/hr
- Tree spacing 10' x 20'
- Sprinkler spacing 45 x 30'
- Sprinkler heads: Rainbird Impacts
- Old system
- Separate from under-tree irrigation.



Pear IPM Case Study: Honeydew Washing at Gale Orchards

Impacts



Costs

- Old system
- Install cost-prohibitive

Grower comments

- I go back and forth between irrigating over– or under-tree. Generally, I will do one pass of the overheads before applying a spray.
- Very helpful if trees get sticky but I have not had difficult psylla pressure in recent years.

