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

R2000
K4 15deg
#14 Nozzle (Green)
Nozzle base

3/4” P

24” Nelson 6mm steel rod stake
1” crimp clamps
3/4” S40 PVC coupling
3/4x1/2” S40 bush
1/2” spigot x 10 mm adapter
3/4x1/2” S40 PVC female adapter
10 mm comp x 7mm barb adapter
10 mm tube
1” round poly
Pear IPM Case Study: Honeydew Washing at SC Orchards

**Impacts**

- **PRE-WASH**
- **POST-WASH**

**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.

**Costs**

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

PRE-WASH  POST-WASH

**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.

**Costs**

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

**PRE-WASH**

**POST-WASH**

**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
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**

- PRE-WASH
- POST-WASH

**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.

**Costs**

- Old system
- Install cost-prohibitive