



● AGRICULTURE

# Orchard Scale and Algae Control Case Study **Yakima Valley, Washington**

Hydropath treatment changed hard apple scale into an easily removed powder, while pond clarity improved and algae blooms reduced significantly.

>90%

Easy Removal

40%+

Grade Improvement

2 weeks

Clearer Pond Observed

0

Filter-Clogging Snails Present



## BEFORE & AFTER

● BEFORE

- Hard scale stains did not rub off apples
- Only 50% typically achieved highest grade
- Floating algae blooms affected the pond

● AFTER

- ✓ Soft powder rubbed off the apples easily
- ✓ Over 90% expected to achieve highest grade
- ✓ Pond became clearer and algae blooms reduced



BEFORE

*Apples from untreated orchard*



AFTER

*Apples from treated orchard*



## OVERVIEW

A long-established fruit grower in Washington's Yakima Valley used overhead orchard sprayers for temperature control and protection from sun damage. Although acid was added to the spray water, hard scale stains still formed on the apples and reduced their grade. In an average season, only 50% achieved the highest grade. The grower evaluated Hydropath treatment to make scale deposits easier to remove and improve grading outcomes.



## CHALLENGE

Hard mineral stains remained on sprayed apples despite acid dosing, lowering the proportion that achieved the highest grade.

- Acid-treated spray water still left hard scale stains on the fruit.
- The deposits did not rub off and reduced the grade of the apples.
- Only around 50% typically received the highest grade in an average season.



## SOLUTION

One *HydroFLOW*® custom 12" unit was installed on the pipe supplying spray water to the orchard and evaluated for two months.

### UNIT INSTALLED

1x *HydroFLOW*® custom 12"

### INSTALLATION POINT

Orchard spray-water supply pipe

### WATER SOURCE

Pond-fed irrigation system

### EVALUATION PERIOD

Two months



### SITE

Orchard irrigation pond



### INSTALLATION

Spray-water supply pipe



### SITE

Overhead orchard sprayers



## RESULTS



### Scale Became Easy to Remove

Scale formed as a fine powder that rubbed off the apples easily.



### Over 90% Highest Grade Expected

Over 90% of the apples were expected to achieve the highest grade after processing.



### Pond Water Became Clearer

Pond water became much clearer within two weeks.



### Algae Blooms Reduced

Floating algae in the pond reduced significantly.



### Filter-Clogging Snails Gone

Snails that had previously clogged the filters were no longer present.



### Best Initial Results Reported

Orchard manager reported the best initial processing results he had seen.



## TESTIMONIAL

*"The pond has never been this clear and the white powder washes right off the apples. Initial processing results are the best I've ever seen."*

— Orchard Manager

### KEY TAKEAWAY

## Orchard Scale Control

HydroFLOW® treatment changed hard scale on apples into a fine powder that rubbed off easily, improving expected grading outcomes. Pond conditions also improved, with clearer water, reduced algae blooms and no filter-clogging snails observed.

**>90%**

EXPECTED HIGHEST GRADE

**2 weeks**

CLEARER POND OBSERVED

**0**

FILTER-CLOGGING SNAILS



## ADDITIONAL PHOTO EVIDENCE



BEFORE

Hard scale on apples from neighbouring orchard



BEFORE

Hard scale deposits that did not rub off



BEFORE

Neighbouring orchard apples with hard deposits



AFTER

Apples from the Hydropath-treated orchard



AFTER

Soft powder rubbed off easily



AFTER

Treated apples with removable powder deposits



**BEFORE**

*Floating algae blooms before treatment*



**AFTER**

*Clearer pond water two weeks after installation*



**PRE-TREATMENT**

*Filter-clogging snails before treatment*

#### RELATED CASE STUDY

## Long Stem Rose Growth Case Study

### South America

Hydropath technology was applied to a long stem rose growing operation in South America, improving stem growth during cold season months. Average stem length increased from 42.3cm to 45.9cm and the ratio of premium 50cm stems improved significantly.

#### Longer Stems

Average stem length increased from 42.3cm to 45.9cm over the trial

#### Stronger Growth

Improved stem strengthening and plant propagation throughout the season

#### Organic Certified

Certified for use in organic agriculture by Washington State Dept.

**HYDROPATH** 

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