

**Integrated Water Solutions, LLC**  
13995 Diplomat Drive Suite 400  
Farmers Branch, TX 75234  
[www.iwsolutions.us](http://www.iwsolutions.us)

For more information contact:  
Randy Wood | 972-533-6225



## Case Study - Orchard - Scale on Apples

Case study updated on September 27, 2013



- Installer:** *HydroFLOW West, HydroFLOW Master Distributor in the US Pacific Northwest.*
- Customer:** The grower has been growing, packing, and shipping premium tree fruit products since the 1920's, with orchard locations throughout the prime growing regions of Eastern Washington.
- Application:** Scale accumulation on apples.
- Device:** Custom *HydroFLOW 12"* Water Conditioner.
- Installation date:** July 17, 2013
- Evaluation date:** September 17, 2013



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## Background:

The Orchard in the Yakima Valley, Washington, incorporates overhead sprayers for temperature control and protection from sun damage.



## Problem area:

Even though acid is added to the sprayed water, apples still gather hard scale stains. The scale staining reduces the grade of the apples. In an average growing season, only 50% of the apples receive the highest grade rating.



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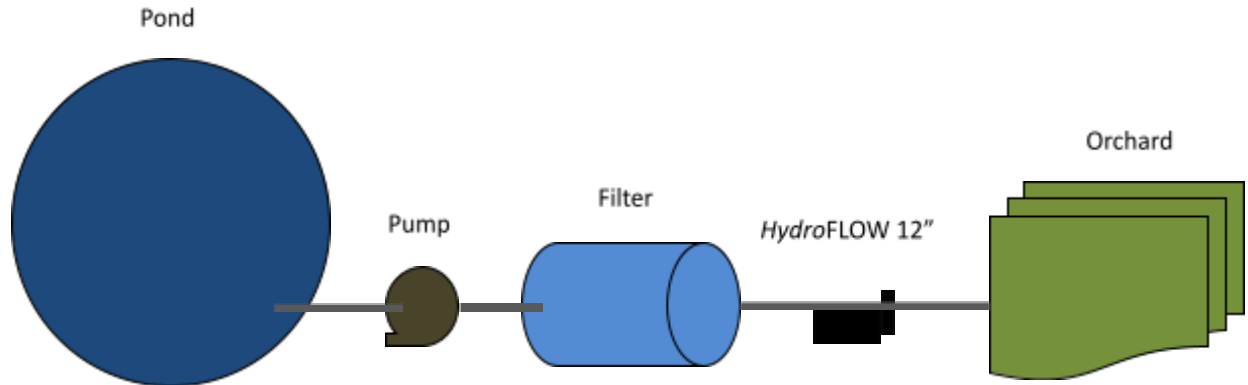
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**Proposed solution:**

Install a Custom *HydroFLOW 12"* I Range on the pipe which supplies water to the Orchard.



**Results:**

Scale deposits accumulate as fine powder which is very easy to remove. Over 90% of the apples are expected to receive the highest grade rating once processed. Note: The apples were picked at the end of 2013, placed in cold storage and are expected to be processed, packed and shipped during the first quarter of 2014.



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**Without *HydroFLOW*** - Hard scale accumulation which does not rub off



**With *HydroFLOW*** - Soft scale accumulation which easily rubs off



**Apples from neighboring orchard (without *HydroFLOW*)**



**Apples from the treated orchard (with *HydroFLOW*)**

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Apples from neighboring orchard

Apples from the treated orchard



Apples from neighboring orchard



Apples from the treated orchard

### **Additional Observations:**

Two weeks after the installation of the *HydroFLOW* water conditioner, the pond's water became much clearer and the floating algae blooms reduced significantly. In addition, snails that used to clog the filters are no longer present.



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Before *HydroFLOW*

After *HydroFLOW*



Snails in the filter before *HydroFLOW*

**Quote from customer:**

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Orchard Manager: “The pond has never been this clear and the white powder washes right off the apples. The benefits of *HydroFLOW* should have a very positive impact on our profits this season. Initial processing results are the best I’ve ever seen.”

**Referral Information:**

The owner of the orchard expressed willingness to speak about *HydroFLOW*’s impact on his orchard. Please contact Rudy Nicacio, Manager of *HydroFLOW* West, in order to receive the owner’s contact information.

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