Conducting a Self-Assessment: Vegetable Wash Plant

Introduction

Conducting a self-assessment of your operation's water use can benefit your farm in a variety of ways—save money, save water, reduce treatment costs. It's simple and easy to do on your own!

Step 1: Basic Layout Sketch

Firstly, it is important to understand where and what source your water comes from. Illustrate the water process with a basic sketch of your operation.



Step 2: Measure Water

Using a water meter or collecting grab samples, measure the water being used at each stage in the plant process.





At each stage, to calculate daily water used: water (litres) used per minute x 60 minutes x daily hours of operation





Step 3: Discussion with Staff about Potable vs. Used Water

Add up the total water at each stage and have a discussion with staff about your findings through the layout sketch and water measurements.

- Controls—is water turned off easily or are valves hard to get at?
- Is water turned off at breaks and shutdowns?
- Can less flow be used at any stage in the process?
- Could nozzles or other flow regulators be used?
- Is there a place to install a meter or rotameter that can help staff understand water usage?

Step 4: Opportunities for Improvement

1. De-Dirters

Removal of as much dirt as possible from the vegetables before they are touched by water using a vibration table or conveyor remover will reduce the amount of water necessary to wash the product, as well as reduce the amount of Phosphorus in the wash water.

2. Rotameters

These simple, easy to read flowmeters allow a farmer or plant operator to see exactly how much water is being supplied to a piece of equipment. They also make it possible to adjust the water flow to the appropriate rate for that piece of equipment.

3. Recycling Water

Systems that use recycled or a combination of recycled and fresh waster use less water than those that do not recycle. Water recycling trays can be used underneath existing equipment, filtered through, and used again in the washing process.

4. Pre-Soak Tanks

Using recycled water to get vegetables wet can reduce the amount of new potable water that goes into the system.

Summary:

In many plants, rotameters and de-dirters have proven to be an inexpensive way to reduce water use.

For more information see our Flow Meter Fact Sheet—"Simple Ways to Measure Water Use on Your Farm"

Farm & Food Care Ontario (www.FarmFoodCareON.org) or Holland Marsh Growers Association (www.HollandMarshGOLD.com)







