



TUNE-UP ORCHARD IRRIGATION SYSTEMS & PRACTICES



IRRIGATION BEST PRACTICES

The off-season is a great time to evaluate your irrigation systems and practices. When crop prices are lower and costs are rising, sometimes efforts to cut cost cause operators to miss critical adjustments or investments that might ultimately reduce cost or improve pack outs. Evaluate your systems, your costs and your practices and consider improvements and important long-term investments in both new and existing irrigation systems.

TUNE UP YOUR IRRIGATION PRACTICES

Working harder will not reduce costs and increase revenue as much as working smarter. Several orchard managers have reported in recent years that the investment in TWIG® WIRELESS CONTROLS to automate and provide remote control of pumps and valves has a one-year payback. This is because fewer ATVs and people are required to operate their irrigation systems once automation and remote monitoring and control are in place. TWIG VERIFY is a powerful NEW tool that can allow irrigators to receive an indication of proper operating pressure without being present. TWIG REPORTING is a tool that can be used to evaluate the execution of the irrigation plan and the success of your Irrigation practices. These new tools can be used to reduce pumping costs, over-time hours paid, and irrigation-related crop failures. For more information see "TWIG Wireless Controls for Irrigation Automation" flyer.





WHY UPGRADE?

SPRINKLER AGE & CONDITION ... IS IT TIME FOR A COMPLETE CHANGE OUT?

Wear or damage to smaller micro sprinklers may be creating uneven watering that affects pack out. Look for and ask your irrigators about the following problems that should be resolved:

- 1. Is the same nozzle size still in each sprinkler. Replacement with the wrong nozzle size or wrong plate during maintenance creates significant variability in water application.
- 2. Is there damage or wear to sprinkler nozzles or plates? If nozzles or plates have been scratched with a wire, if they are covered with deposits or worn, they may be producing uneven watering.

SPRINKLERS MAY HAVE SCRATCHES OR WEAR THAT IS MORE EASILY VIEWED WITH A MICROSCOPE. WHEN SUCH SPRINKLERS REACH 15+ YEARS OLD AND SOME WEAR OR DAMAGE IS DETECTED, THEN COMPLETE REPLACEMENT IS LIKELY MORE COST EFFECTIVE THAN A MAGNIFIED INSPECTION OF EACH NOZZLE AND PLATE. BEFORE A COMPLETE CHANGE OUT IS DONE ASK ABOUT A POSSIBLE TRADE-IN PROGRAM FOR THE R10 ROTATOR® FROM NELSON IRRIGATION CORPORATION. DISPOSE OF OLDER SPRINKLERS AND PREVENT FUTURE USE AND POTENTIAL PROBLEMS.



LABOR SAVINGS

CONSIDER MODIFICATIONS OR INVESTMENTS

First evaluate the replacement parts you are buying and the time spent fixing problems in the field. Identify your most costly (time consuming) problems and consider each of the following solutions to reduce irrigation labor costs.

1. PLUGGED NOZZLES

CAUSE: Algae growing inside pipes or extruding through filters. **SOLUTION:** Treat algae in ponds. Inject chlorine, hydrogen peroxide or other chemicals and/or upgrade filters.

CAUSE: Insects crawling in nozzles. SOLUTION: Switch to the R7 Rotator or S7 Spinner which protect the nozzle from insect intrusion.

CAUSE: Sediment or particles in the irrigation water. **SOLUTION**: Pump from a pond or upgrade filters.

2. ANIMAL DAMAGE TO TUBE & LATERAL PIPES

CAUSE: Coyotes, gophers & mice.

SOLUTIONS: Control pests; mount systems on trellis wires; or shallow bury lateral pipe and use PVC Stake and tube assemblies.

3. FREQUENTLY STALLED OR FAST-SPINNING DEVICES

CAUSES: Pressure too high or too low. Sprinklers are old and worn. **SOLUTIONS**: Complete sprinkler change out; switch to a sprinkler better suited for lower pressure; or raise or lower pressure to match the ideal operating pressure for the product.

3. DAMAGED SPRINKLERS 8 STAKES

CAUSES: Harvest, thinning, mowing, cultivation or pruning operations. **SOLUTION**: Mount equipment on a trellis wire or shallow bury and use PVC stakes.



OVERHEAD COOLING



THE S7 MISTER

- Same application rate as foggers
 Combination of fog and very small droplets
- Easy to clean
- More effective cooling with the same amount of water 20 to 25 GPM/acre as a fogging system.

USE THE TRELLIS CLIP TO LOWER SYSTEM COST

If mounted using the Trellis Clip a cooling system using the S7 Mister will cost about the same per acre as a cooling system using a fogger.

PRESSURE CONTROL

EACH SPRINKLER HAS AN IDEAL OPERATING PRESSURE.

Work with your irrigation dealer and identify the ideal operating pressure. Pressures that are too high can be eliminated with 1000 Series control valves with a pressure control. Sometimes the solution is as simple as installing pressure control pilots on your existing valves or installing a few in line pressure regulators.

Solving low pressure problems may be more difficult. Potential solutions include: switching to sprinklers better suited for low pressure such as the R2000FX or S7 Spinner.

Or work with your irrigation dealer and consider your best options from the following:

- Changing to a smaller nozzle size.
- Enlarging mainline pipes.
- Reducing zone size.
- Rebuilding or upgrading pumps.







NELSON IRRIGATION CORPORATION 848 Airport Rd., Walla Walla, WA 99362 U.S.A. Tel: 509.525.7660 Fax: 509.525.7907 info@nelsonirrigation.com NELSON IRRIGATION CORPORATION (NIC), HEADQUARTERED IN WALLA WALLA, WASHINGTON U.S.A., PLANS, DESIGNS, MANUFACTURES AND SELLS PROPRIETARY PRODUCTS FOR THE IRRIGATION EQUIPMENT MARKET. THE MISSION STATEMENT HAS REMAINED THE SAME FOR 50+ YEARS - SAVE WATER, SAVE ENERGY AND DO A BETTER JOB OF IRRIGATING. 2011 MARKED 100 YEARS OF MANUFACTURING IRRIGATION EQUIPMENT FOR THE NELSON FAMILY - WITH L.R. NELSON'S INTRODUCTION OF THE "CLINCHER" HOSE COUPLER IN 1911.