

## Water Supply



### THIS CHECKLIST

This is a minimum list of checks that focuses on the system water supply: wells, surface intakes, pumps and mainlines. These checks should be made before the irrigation season starts.

### BE SAFETY CONSCIOUS – ELECTRICAL, HEIGHT AND MECHANICAL HAZARDS PRESENT.

Checks include structural and mechanical checks of the structure, and performance checks of water flow, nozzle delivery and pressure. It can be helpful if two people work together to perform checks.

- **Begin the checks with the machine turned off**
  - Tag/lock electrical isolator or motor switches to prevent accidental starting.
  - Observe the state of all equipment, looking for damage or wear and tear.
  - Tighten, adjust, maintain or replace components as required.
  - Lubricate all parts as specified in manuals.
- **Make checks with the system running**
  - Consider which aspects required qualified expert (e.g. electrical)
  - Ensure the irrigator travel path is clear before starting moving machines
  - Check the operation of intake, pump, motor, headworks, valves and hydrants.
- **Check drawdown, flows and pressures**
  - Ensure the depth to water and system operating points are as expected.

Many items can be fixed on-farm. Others require specialist skills or equipment. Tick the check boxes as each item is found OK. Make notes on the checklist overleaf against items requiring follow-up attention.

### OTHER RESOURCES

#### System Operation Manual

Every system should be supplied with a System Operation Manual. Read it and follow instructions. The manual may include extra checks not listed here. It will give more detail than this checklist including information specific to your system.

#### Other Checklists

This checklist is only for travelling irrigators themselves. Irrigation New Zealand has additional checklists for the water supply system (intakes, pumps and mainlines) and for other irrigation types. See [www.irrigationnz.co.nz](http://www.irrigationnz.co.nz).

#### Calibration Guidelines

IRRIG8Lite software and IRRIG8Quick energy efficiency guidelines and worksheets can be downloaded from [www.pagebloomer.co.nz/resources](http://www.pagebloomer.co.nz/resources).

# PRE-SEASON CHECKLIST

Checks completed by: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_



## SYSTEM OFF CHECKS

(SYSTEM NOT RUNNING)

Component	Check
Safety	<input type="checkbox"/> Electrical isolator and motor switches are tagged/locked
Well/bore	<input type="checkbox"/> Ground water level after recovery and before irrigation <input type="checkbox"/> Water depth below the top of the casing <input type="checkbox"/> Depth against previous years <input type="checkbox"/> Consider well test to check for deterioration in performance
Surface takes	<input type="checkbox"/> Intake structures for damage <input type="checkbox"/> Strainers secure, not damaged, not blocked
Pump	<input type="checkbox"/> Complete basic shed maintenance <input type="checkbox"/> Bearings quiet, smooth <input type="checkbox"/> Lubricate as required <input type="checkbox"/> Belts – replace if worn
Headworks	<input type="checkbox"/> Filters – clean <input type="checkbox"/> Pressure gauges fitted and in good condition
Mainline and off-takes	<input type="checkbox"/> Repair obvious damage <input type="checkbox"/> Off-take valves or hydrants
Power supply	<input type="checkbox"/> Exercise caution <input type="checkbox"/> For any obvious problems, worn cables or fuel lines <input type="checkbox"/> Get expert assistance if required
Control unit	<input type="checkbox"/> Electronic controls and battery charge
Prepare to start	<input type="checkbox"/> Before starting: Ensure nothing is parked in front of the irrigator

## SYSTEM ON CHECKS

(SYSTEM RUNNING)

Component	Check
Well/bore	<input type="checkbox"/> Water depth below the top of the casing <input type="checkbox"/> Depth against previous years
Pump	<input type="checkbox"/> No new noises or unusual vibrations <input type="checkbox"/> No leaks – repair as necessary <input type="checkbox"/> Inlet pressure – replace gauge if necessary <input type="checkbox"/> Outlet pressure – replace gauge if necessary <input type="checkbox"/> Flow rate as expected <input type="checkbox"/> Energy consumption as expected
Headworks	<input type="checkbox"/> Water meter functioning <input type="checkbox"/> Control valve operation <input type="checkbox"/> No leaks <input type="checkbox"/> Outlet pressure – replace gauge if necessary
Mainline and off-takes	<input type="checkbox"/> Fill and pressurise mainline – check that it holds pressure <input type="checkbox"/> No leaks in line off-takes or hydrants <input type="checkbox"/> Correct pressure at furthest hydrant of off-take
Control unit	<input type="checkbox"/> Functioning correctly
Other	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>