



Daley's Water Service Pty Ltd
Specialising in
Water & Energy Efficiency

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Travelling Gun Irrigator system checklist

Operation:-

Set the irrigator at the best lane spacing. Ideally the lane spacing should be 60% of the guns wetted width. (The irrigator manufacturer will normally provide tested information)

Check that the gun pressure is correct using a pitot tube gauge. The ideal pressure for most Guns is 70PSI (482KPA)

Check the tires are inflated.

Check the winch cable for twist or tangles that may damage the cable and stop the machine from walking.

Ensure the cable anchor is adequate to hold in all conditions

Start the system and check for any leaks.

Check the walk speed by timing the travel over distance.

Check the rotation of the gun is consistent

Be sure to note the start and finish time.

Seasonal Checks:-

Ensure the hose is not rolled onto the reel too tight if you are storing the irrigator any longer than 3 months.

Inspect the hose for cracks or lamination particularly around the end coupling areas.

Inspect the hose connection seals are in good order.

Inspect the inline filter if fitted for blockages.

Drain water from the water motor or ram drive mechanism if storing the machine for 3 months or more.

Inspect for leaks around the drive mechanism.

Inspect wire winch cable for damage or excessive wear. (Not applicable to Hard Hose irrigators)

Check wire winch cable stopper clamp is tight. (Not applicable to Hard Hose irrigators)

Inspect drive exhaust jets are not blocked with Hornet nest etc.

Check that the Gun arc adjustment, stopper and reverse adjustment.

Measure the gun nozzle size with Vernia's to check for any were

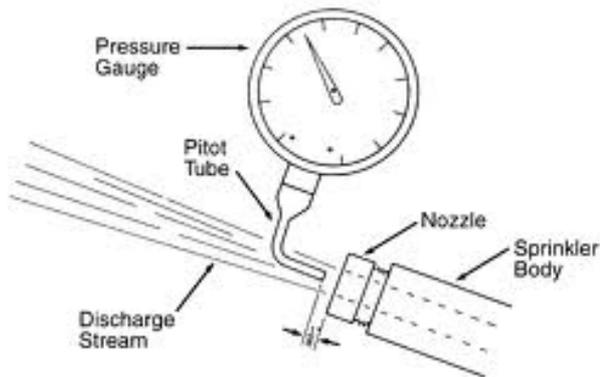
Grease all moving parts with water resistant grease. (Retnex Grease)

Inspect the oil and replace if required in any gearboxes including the hose reel.

Inspect oil in the hose purge pump.

Check tire condition and pressure on the irrigator and hose reel.

Pitot Gauge



Annual Checks:-

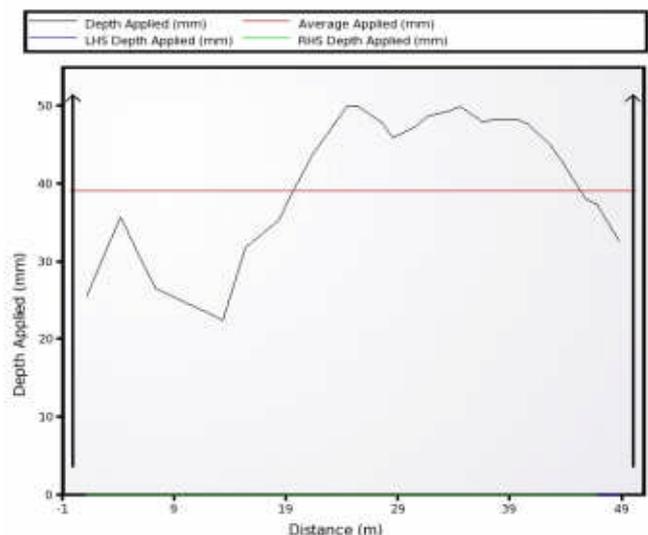
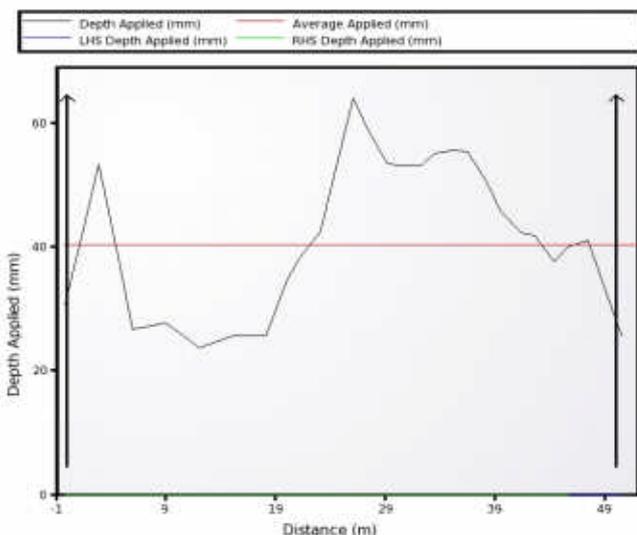
Repeat all the seasonal checks above.

Perform a Distribution of Uniformity and Coefficient of Uniformity test on the system. (Commonly referred to as a Catch Can Test) Two rows of cans are set out at equally spaced intervals perpendicular to the irrigator run direction. This will determine the average application rate and how uniform the precipitation is. This will also determine the best lane spacing for your conditions (This is very important knowledge in your ability to schedule irrigation to the crop requirements) There are service providers that can conduct this service.

Catch Can Result

Catch Can Row 1 Graph

Row 2 Graph





Tips:

- Repair all leaks
- Irrigate during low wind periods
- Never use a nozzle smaller or larger than the design nozzle.
- Invest in soil moisture probe, rain gauge, pitot tube, pressure gauge and a vernia calliper set.
- Pressure drop should not exceed 15% between the pump and the Gun.
- Every ML per PSI is reflected in energy cost
- Don't exceed the system capacity. The rate of available flow and the crop requirement determines how much area can be irrigated.