

# Are you a SMART irrigator?

## GUIDANCE ON WATER MANAGEMENT DURING THE IRRIGATION SEASON



### Set yourself up with the knowledge of your system and soils.

Knowledge of your system means –

#### **CALIBRATE YOUR IRRIGATOR.**

Measure how much water is being applied across different settings. Don't assume the readout on a control box is correct!

Knowledge of your soils means –

#### **KNOW THEIR LIMITING FACTORS;**

- Water holding capacity (how much can the soil hold before drainage or runoff occur)
- Infiltration rates (how intense can the application be remembering soil infiltration rates slow as soil wets up).

### Every day steps

#### **FIRSTLY, SCHEDULE IRRIGATION WELL.**

Apply the right depth at the right time. To do this you should use three key pieces of information:

1. What your soil moisture status is – what depth (mm) of irrigation can I apply before my soil is full. Soil moisture measurement can provide this information.
2. Recent and forecast weather information of Evapo-transpiration (demand) and rainfall Consider the probability of the forecast rain, if it is >65% adjust the depth applied. Save your money and water... rain is free.
3. What the return period is for your system (how fast can I get back so my soils do not dry out). Systems with short return periods are more flexible and you have more scope to vary the depth applied according to weather forecasts more easily.

If you are on a scheme roster this also has to be taken into consideration.

Remember that plants don't grow in soil temperatures below 10° so don't irrigate if soils are cold.

#### **SECONDLY, MONITOR AND MAINTAIN THE IRRIGATION EQUIPMENT.**

Two key aspects:

1. Ensure that the system is operating at its design specifications
2. Continually check your sprinklers, emitters and pipework for leaks, blockages and correct operation.

Correct pressure, flow and operation means the application system should be operating at its most efficient meaning you will get the most crop per drop!

#### **MAINTAIN COMPLIANCE.**

Ensure that your water meter is operating at all times and check that your use is within consented rates, volumes and related take conditions.

Remember that water meter information is far more useful than just compliance. With this info you can now work out exactly how much has been applied and in combination with electricity use how much irrigation costs.

### Continuous improvement

#### **BUILD CAPACITY INTO THE SYSTEM.**

if a rotation length is limiting your ability to vary the depth applied or match your soils limitations invest in more hardware to increase capacity and improve flexibility.

If you operate K-line or long line sprinklers:

- Make sure that the shifting regime does not overwater some areas and underwater others. Use GPS or other technology (might be as simple as markers on a fence line) to shift to the right places.
- Over a 24 hour period long line, k-line and similar systems apply a large depth of water and the soil infiltration rate sometimes cannot cope with extended watering time. Consider changing the watering regime by pulsing or moving lines more frequently to match.

Manage your irrigation according to management units. Increasing capacity enables you to achieve this. Management units can be decided on crop, soil, aspect or slope differences. Commercial precision irrigation packages do this automatically but you have the best knowledge of your farm to decide management units to match your system capabilities. This can save you time, water and money.

#### **DON'T WATER WASTE AREAS – IT IS NOT SMART!**

Set up irrigators to avoid roads, waterways, over boundaries.

Remember your water consent is a privilege, respect what you have been granted and use water wisely.

### Be a SMART irrigator

For more information please check the following websites:

- [www.irrigationnz.co.nz](http://www.irrigationnz.co.nz)
- [www.smartirrigation.co.nz](http://www.smartirrigation.co.nz)