



- Convert the crop water requirement (expressed in mm/day) to a volumetric measure.

1 mm of water applied = 1 L/m²

100 mm of water applied = 1 ML/ha.

To convert the crop water requirement to an appropriate volumetric measure

= crop water requirement (mm/day) x crop canopy width (m)

Month one: mm/day x m = L/day/m of tape

Month two: mm/day x m = L/day/m of tape

Month three: mm/day x m = L/day/m of tape

Month four: mm/day x m = L/day/m of tape.

Step 3: Use the data from steps 1 and 2 to work out the expected period between irrigations for each month

Readily available water (in soil) ÷ crop water requirement = irrigation interval

Month one: L/m of tape ÷ L/day/m of tape = days

Month two: L/m of tape ÷ L/day/m of tape = days

Month three: L/m of tape ÷ L/day/m of tape = days

Month four: L/m of tape ÷ L/day/m of tape = days.

Calculating how long to irrigate

You need to know:

- Readily available water content of the area/volume wetted by the irrigation system
- Water application rate or discharge from the irrigation emitter/sprinkler

Step 1: Calculate the readily available water (RAW) in the crop root zone.

Use the same steps as for Step 1 in the section calculating when to irrigate on the previous page.

Step 2: Measure the discharge from your irrigation application nozzle/emitter.

Discharge per emitter (L/hr) = volume in container (in Litres) ÷ time to fill container (in minutes) x 60 mins/hr

L ÷ mins x 60 mins/hr

Discharge rate = L/emitter/hr

To calculate the discharge per metre of tape:

Discharge rate (L/m/hr) = discharge rate (L/emitter/hr) ÷ emitter spacing (m)

= L/emitter/hr ÷ m

= L/hr/m of row.

Step 3: Use the data from steps 1 and 2 to calculate how long to irrigate.

To calculate the period of irrigation

= readily available water (L/m of tape) ÷ discharge (L/hr/m of tape)

Month one: L/m of tape ÷ L/hr/m of tape = hrs

Month two: L/m of tape ÷ L/hr/m of tape = hrs

Month three: L/m of tape ÷ L/hr/m of tape = hrs

Month four: L/m of tape ÷ L/hr/m of tape = hrs.

For more details contact the Growcom members access line on 07 3620 3844.

Disclaimer: This information is provided as a reference tool only. Seek professional advice for irrigation specifics.

A Growcom project conducted in collaboration with the Queensland Department of Agriculture, Fisheries and Forestry and the National Centre for Engineering in Agriculture with funding provided by the Queensland Government's Rural Water Use Efficiency Initiative.

