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McPherson Horticulture

METHOD TO MEASURE RESTORATION OF CONTAINER CAPACITY (moisture deficit replenishment)

**Useful when fine tuning nursery irrigation practice.**

When a crop is grown in soilless media in a pot/container, it is important to apply sufficient irrigation to ensure complete replenishment of moisture deficit. Partial replenishment may progressively result in moisture deficit, the plant roots becoming too dry, and sub optimal growth, or even root injury through high salts' accumulation.

Best practice for container grown crops is to water well and water to waste. The waste factor usually being 10% more application than is required for complete deficit restoration (restoration of container capacity).

Set out below is a method for measuring the attainment of this goal:

Method:

1. Select a container/pot typical of those used in the crop production.
2. Level fill a pot with fresh media. Do not compress the contents of the pot. Achieve a level by gently tapping the filled pot on a hard surface.
3. Place the pot in an oversized, hole free, plastic bag.
4. Using clothes pegs or similar, pull the outer plastic bag up to the rim of the pot and secure it in several places to the rim of the pot using the pegs. The idea is to ensure that any overhead irrigation applied would have to go through the pot in order to get into and be held in the plastic bag.
5. Place the pot/bag combination in amongst your crop.
6. Run your irrigation system for your usual length of time, keeping a record of that run time.
7. Allow 5 minutes stand time after irrigation before inspecting the pot/bag.

Recourse to the specific AFP/WHC characteristic for that pot/media combination, as Measured, using the method described in the McHort leaflet entitled "Method to determine water holding capacity (container capacity)" will be useful.

8. Measure and record the volume of water that is held in the bag.

If no water is evident in the bag insufficient irrigation volume or run time has been used. The volume of water captured in the bag should ideally be +10% more than is required to restore container capacity.

For more information and interpretation of your results contact:

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## Information, Advice, Supply