Information
Conductivity

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Conductivity meters

Conductivity meters are an excellent and useful piece of equipment for measuring the level of nutrients in liquid feeds and compost. If you take weekly readings of compost you can soon build up a picture of CRF nutrient release and optimum growth, so you can use liquid feeding as a top up.

The conductivity meters we supply measure in micro Seimens x10 or milli Seimens mS. A reading of 25 on the pen is 250 micro Seimens or µS.

Compost measurement.
Conductivity is changed by temperature so try to make measurements at a known water temperature. We suggest you use the following as a guide to simple nursery use, making sure you follow the same proceedure each time to make your readings relative.

Take a compost sample from around 20 pots taking it from within the compost body ideally by corer. Remove any CRF granules to avoid high and non-representative readings. Add 2½ times nursery irrigation water to a compost sample. Stir well and allow to stand for around half an hour in the office to settle and bring up to room temperature, then dip the pen into the sample.

For readings to be of use you must first take a reading of plain water. This figure is taken away from the sample to arrive at low, optimum and high levels for you.

General nursery stock
Readings of:
- 150µS and lower are low
- 150µS to 400µS are optimum
- Above 400µS are high

Heathers and some alpines e.g. as *Lithodora*
Treat 300µS as the optimum level.

To relate this to your nursery and assuming your plain water was 400µS, the pen would be showing levels of: 550µS and under for low (150+400)
550µS to 800µS for optimum (400+400)
over 800µS for high

Liquid feed monitoring

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For liquid feed checking take a sample of stock solution and dilute it with 100 equal volumes of water to produce a 1:100 standard solution, or with 200 volumes for 1:200 standard solution. These standards can be used as references for checking the efficiency of diluter and injector settings. Note that urea will not ionise the water and so cannot be used for this type of measurement. We have written a computer programme to run on Excel to calculate both the pH effect and conductivity of home made liquid feeds. Contact the office for details.

Pesticides

If you apply pesticides through a drip irrigation system the application rates can be checked by adding small amounts of liquid feed to the mixture and measuring the conductivity of the solution flowing from the nozzle. Remember the solution is a pesticide and the personal protective clothing stated on the pesticide label must be used when checking.

The Major meter model is available at £77.65. It takes four coin cells which are priced at £1.73 each. The soil model is £121.56 and the Pen type liquid meter is £65.50.
Calibration sachets (1413µS) are £1.98 each and 460ml bottles of calibration solution (also 1413µS) are £36 each. All prices exclude VAT at the standard rate and postage.

- Waterproof (they even float!)
- Dual-level LCD displaying EC or TDS and temperature
- Self-check at start up, displaying remaining battery life and ensuring proper working condition
- Stability indicator and hold feature
- Stainless steel temperature probe for faster and more precise temperature measurement
- Automatic calibration and temperature compensation
- User adjustable EC/TDS conversion factor and temperature coefficient factors
- EC/TDS graphite electrode for greater accuracy and reduced contamination
- Auto shut-off
- °C/°F

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