

## *Use of TDSTestr™ in Fertilizer Applications*

Tech Tip #15 ©1997

### ***A. Simple determination of when fertilizer is present in a “Fertigation” line using the TDSTestr 1.***

Step 1. Determine the TDS value of your “Fertigation” make-up water prior to addition of Fertilizer by dipping the OAKTON® TDSTestr 1 into a sample and noting the reading when it stabilizes.

Step 2. As your water runs through your “Fertigation” line, take samples from the line on a frequent basis, dip the TDSTestr 1 into the sample and note the reading when it stabilizes. When just water is coming through, the TDS value will be near or within  $\pm 10\%$ , depending on contaminants in the line, of the value found in Step 1. Once fertilizer is present in the line, the value from your sample will increase dramatically above the value found in Step 1. The amount of increase will vary from fertilizer type and concentration. The important thing to note is when a sudden rise occurs in the TDS value.

### ***B. Accurate determination of fertilizer concentrations***

Note: Choose the TDSTestr 1 if the TDS of the fertilizer concentrations plus the make-up water is expected to be below 1990 ppm. Choose the TDSTestr 2 if the TDS of the fertilizer concentration plus the make-up water is between 1.00 and 10.00 ppt.

#### **Accurate determination of Fertilizer Concentration using TDSTestr 1**

Step 1. Make a calibration standard using your fertilizer and make-up water by dissolving 1 gram of fertilizer in 1 liter of water. This makes a 1000 ppm (1000 mg/L) standard.

Step 2. Calibrate your TDSTestr 1 by dipping it into standard and adjusting trimmer so it reads 1000 ppm.

Step 3. Dip the TDSTestr 1 into your fertilizer mixture and read the concentration on the display.

#### **Accurate determination of Fertilizer Concentration using TDSTestr 2.**

Step 1. Make a calibration standard using your fertilizer and make-up water by dissolving 5 grams of your fertilizer into 1 liter of your make-up water. This makes a standard of 5 ppt or 5 g/L.

Step 2. Calibrate your TDSTestr 2 by dipping it into the standard and adjusting the trimmer so it reads 5.00 ppt (which is the same as 5.00 g/L).

Step 3. Dip the TDSTestr 2 into your fertilizer mixture and read the fertilizer concentration in the display.