Pressures can be measured using a portable pressure gauge connected with a flexible tube. Gauges are manufactured with a needle on a flexible tube for direct insertion into the lateral pipe. Alternatively, some emitters are constructed so that a flexible tube can be slipped over the emitter, allowing the pressure to be measured with the emitter in place. Note that pressure distributions in lateral pipes with a large number of emitters (more than 10) will not be significantly affected by blocking one emitter while the others continue to flow.

Some microsprinkler emitters are not mounted directly on the laterals. Rather, they are connected to the lateral using small diameter flexible tubing with a barbed insertion fitting. Because of pressure losses in these connecting tubes, pressure should be measured at the end of the tube near the emitter while the emitter is operating. This can be done by using a small barbed tee in the connecting tube.

Care should be taken to distribute the measurement points throughout the irrigated zone. Specifically, some points should be located near the inlet, some near the center, and some at the distant end. Also, some should be located at points of high elevation and some at points of low elevation. However, the specific emitters to be tested should be randomly selected at each location. Do not visually inspect the emitters to select those with certain flow characteristics before making measurements. A minimum of 18 points should be measured. Computations will be simplified if the number of points measured is a multiple of 6.

The hydraulic uniformity can be read from Figure 1. The following six steps are required:

Step 1. Calculate 1/6 of the number of data points measured. That is, divide the number of data points by 6. For example, if 18 points were measured, this number will be 3.

Step 2. Look at the set of data measured to locate and then add the lowest 1/6 of the pressures measured. For 18 data points this will be the sum of the 3 lowest pressures.

Step 3. Look at the data set again to locate and then add the highest 1/6 of the pressures measured. For 18 data points this will be the sum of the 3 highest pressures.

Step 4. Locate the sum of the high pressures on the vertical axis in Figure 1. Draw a horizontal line across the graph from that point.

If this sum does not fit on the scale, or if the value is very small so that the scale is difficult to read, the sums calculated in Steps 2 and 3 can both be multiplied or divided by a common factor. This can be done because their absolute values are not important, but only the relative differences between the high and low values are critical.