

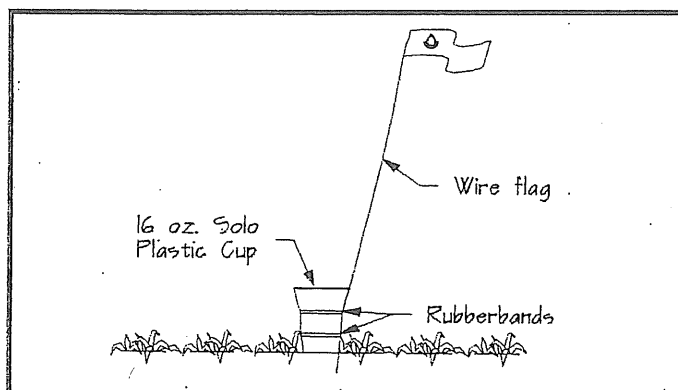
GAUGING SUCCESS

Handy Homemade Gauge Measures Irrigation and Manure Applications

Start taking the guess work out of irrigation and manure applications by measuring what actually ends up on your fields, lawns, and gardens. Yields fall and costs rise when the right amount of water and/or manure doesn't end up in the right place. The best way to find out what actually ends up on the ground is by distributing gauges (the more the better) under the application area, beginning at or near the middle and extending out to perimeter. Once a number of tests have been taken (be sure and note what effect wind speed has on your system) adjustments can be made. Time of set or speed of tow, tow path distance, and nozzle size are among a host of variables that may require correction.

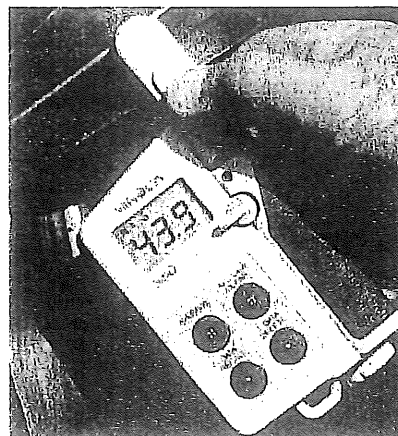
The gauge pictured (call it a "SOLO gauge") is inexpensive, light weight, stackable, stable, and easy to secure in the soil. These advantages make this gauge preferable to buckets and plastic rain gauges. Materials: 2 - heavy duty rubberbands; 1 - 16 oz. plastic cup (SOLO - 3.5 inch diameter); 1 - 2 1/2 foot wire survey flag. (While they last, these materials are available at our office - free of charge.)

Interpreting results: liquid collected in the cup is measured in ounces and then converted to inches applied. 5.5 oz. of liquid in the 16 oz. SOLO cup is equivalent to a 1 inch application. Averages are valuable when a number of cups are used. Find this by dividing the total oz. of liquid collected by the number of cups. Divide the result by 5.5 to determine the application depth in inches. Example: the average per cup if 17 total ounces is collected in 9 cups is 1.9 oz.. 1.9 divided by 5.5 is equivalent to a .35-inch application.



New Technology in Corn Silage Nitrogen Management:

Minolta SPAD 502* Chlorophyll Meter



Corn plants can't tell you when they are hungry for nitrogen fertilizer. Or can they? Visual assessment can give us a clue. If you notice leaf margin burning, or yellowing of the older leaves, the plant may be telling you that it's starving for nitrogen. Unfortunately, when these signs are visually apparent, it is often too late to prevent serious crop damage.

Since growers can't afford to wait for nitrogen deficiency signs to surface, they may apply more commercial or organic (manure, composts) nitrogen fertilizer than the crop needs. In such cases, the trade off is wasted money and time on excess fertilizer application, and potential nutrient loss to the environment.

What options can a grower use besides setting realistic yield goals and soil testing? One way to improve nitrogen management practices is to monitor the crop's chlorophyll status throughout the growing season.

Simply put, Chlorophyll is what gives plant tissue its characteristic green color. Studies have shown that leaf chlorophyll content is closely related to leaf nitrogen content. The Minolta SPAD 502 chlorophyll meter measures leaf greenness. The meter produces a leaf greenness reading that enables the user to determine whether there is sufficient nitrogen for the plant's needs. Research from the University of Nebraska indicates that systematic weekly leaf tissue readings taken throughout the field can identify nitrogen deficiency early enough to correct it before yield reduction occurs.

Although the chlorophyll meter holds promise for nitrogen management, caution should be used before purchasing one (approximate cost: \$1,300.00). Studies indicate reading variations due to factors such as time of day, temperature, different hybrid varieties, and management programs. In order to assess the chlorophyll meter's usefulness for nitrogen management, WSU-Whatcom County will be evaluating the meter in local corn silage fields throughout the 1996 and 1997 growing seasons, as part of the Abbotsford-Sumas Aquifer Nitrate Management Study.

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*The use of brand or trade names is strictly for convenience and clarity, and implies nor supports endorsement of any products.

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