



Nebraska Agricultural Water Management Demonstration Network:

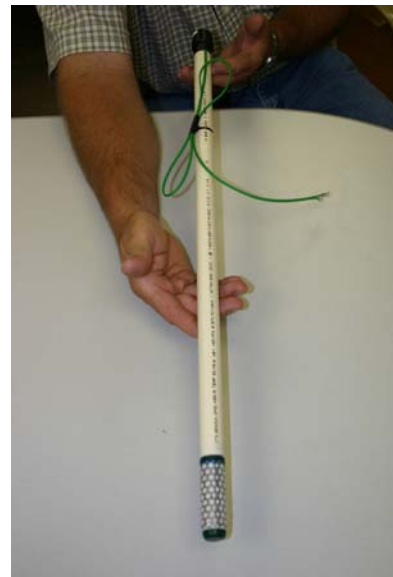
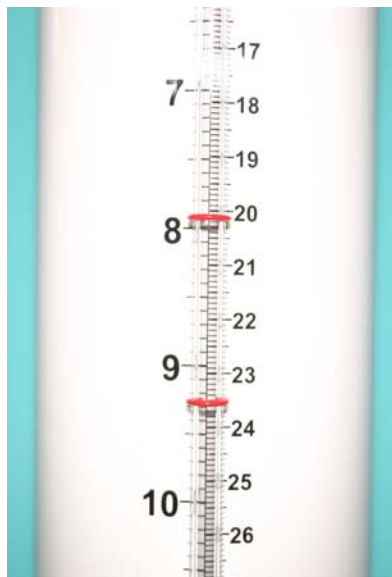
The purpose of the project is to track water use of crops across the District and compare the information to the crop water use information gathered from the weather station at Recharge Lake. Local Atmometers should provide more accurate information to irrigators to assist them in making better irrigation scheduling decisions. This is done by measuring evapo-transpiration (ET) with the Atmometers and keeping track of soil moisture at each Atmometer site with Watermark sensors placed at 1, 2, 3 and 4 foot depths. The goal of the program is to have 30 to 40 sites across the NRD.



Pictured left to right: Andy Christensen—Hamilton County Extension Educator; Rick Hughes—Cooperating producer; Gary Zoubek—York County Extension Educator; Dan Leininger—Upper Big Blue NRD Water Conservationist; and Jenny Rees—Clay County Extension Educator, stand behind the newly installed Atmometer on Hughes's farm (northwest of Geneva, Nebraska).

The NRD is cooperating the University of Nebraska Cooperative Extension and several producers.

Equipment:



Atmometers and Watermark® sensors will provide data for efficient timing of irrigation.



Irrigation Scheduling Equipment Rebate:

Irrigation scheduling is a critical part of good irrigation water management. Over-irrigation increases nitrate leaching. By using one of three methods to find out how much water is available in the soil, an irrigator can determine whether to irrigate now or wait. The District sells equipment to measure soil moisture at cost. Irrigators may receive a 50% rebate on the price of the equipment once a form—(available from the NRD) documenting irrigation scheduling—is turned in at the end of irrigation season.

The three irrigation scheduling methods are:

- **Scheduling Using Electrical Resistance Blocks**
Equipment needed: electrical resistance blocks; soil probe; 3/8 inch dowel; and a moisture meter.
- **Scheduling by Appearance and Feel**
Equipment needed: soil probe.
- **Scheduling Using Tensiometers** (for sandy soils only)
Equipment needed: tensiometers; soil probe.

The District sells the following equipment at cost:

- Delmhorst electrical resistance blocks.
- Delmhorst moisture meters.
- Oakfield soil probes.



CROP-TIP (Cornerstone Resources Observation Plot - Test Irrigation Project):



CROP-TIP, started in 2004, is a demonstration looking at the impact of “limiting” irrigation. Cornerstone Bank and the District entered into a three year agreement. Cornerstone Bank is paying the majority of the cost for farming a 24 acres field near York. The District is managing the farming operation. The field is irrigated by gated pipe. Several moisture measuring methods are being used at the demonstration. They include Delmhorst moisture blocks (gypsum blocks), Watermark sensors (ceramic blocks), appearance and feel (soil probe), portable moisture sensors, and an Atmometer. The field is divided into five plots. Two plots are irrigated using the University of Nebraska method based on soil moisture. This is commonly called the “50-Percent” rule. Two additional plots are irrigated based on crop stage with the emphasis being on having adequate moisture during the reproductive growth stages of the plant and avoiding irrigation during other growth stages unless the soil moisture nears the wilting point. The fifth plot is use to look at the affects of irrigating late in the season. Results are published in an annual report. A field day is conducted each fall. Area schools use the field for marketing and conservation study.