



## Nebraska Agricultural Water Management Demonstration Network:

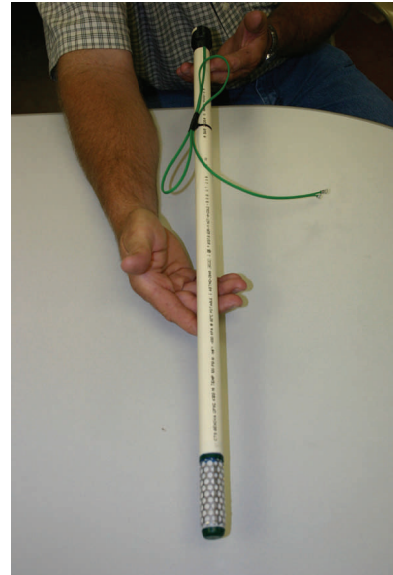
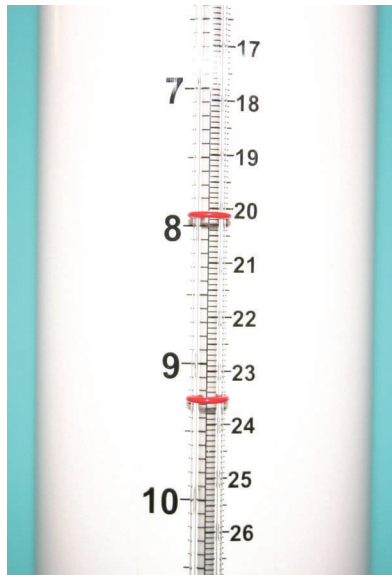
The purpose of the project is to track water use of crops across the District and compare the information to the crop water use information gathered from the weather station at Recharge Lake. Local Atmometers should provide more accurate information to irrigators to assist them in making better irrigation 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 Discount:**

Irrigation scheduling is a critical part of good irrigation water management. Over-irrigation increases production cost, can reduce crop yields, and leaches nitrates out of the crop root zone which pollute the groundwater. Simple management tools are available, which can help the irrigator decide when it is appropriate to irrigate and when he or she can wait.

The District sells several of these tools at a fifty-percent (50%) discount to irrigators in the District. The equipment is also for sale to others at regular prices. The irrigation scheduling equipment available includes:

- Irrometer - Moisture Sensors, Meters and Data loggers.
- Etgage Company – Atmometers.
- Clement and Oakfield Soil Probes.
- Delmhorst Electrical Resistance Blocks and Meters.

Irrigators choosing to purchase moisture sensors and atmometers are encouraged to participate in the Nebraska Agricultural Water Management Demonstration. Participation is voluntary.



### **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 and sub-surface drip irrigation.

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.