

Natural Resources News

Spring 2000 A Newsletter of the Twin Platte Natural Resources District Vol. 10

Come visit our web page to find out more about what we can do for you: <http://linux1.nrc.state.ne.us/tpnrd>

Flow Meter Testing ... A Tool for Saving Time and Money

It is highly beneficial to have some type of water measuring device that provides you with the total volume of water delivered to the field. It may be having your own meter, or having the Twin Platte Natural Resources District periodically come out and measure your pump with our Ultrasonic Flow Meter. A meter, be it a water meter or a portable Ultrasonic Flow Meter, is a management tool that can help protect water quality and save operating dollars as well as finding problems with pumps that may not be detected otherwise.

The Twin Platte Natural Resources District has a portable Ultrasonic Flow Meter, thanks to a 319 Grant from the Nebraska Department of Environmental Quality. The Flow Meter can provide flow rates for producers on their irrigation systems. The meter can be used on everything from center pivots to flood fields. The only requirements are that the pipe connected to the flow meter be flowing with a full pipe of water and that there be a straight pipe at least 10 pipe diameters in length from any elbow or fitting that changes the direction of flow of water. If there is air in the pipe it causes the reading to not be correct. The meter can be hooked up to any type of pipe without having to drill holes or disfigure your pipe in any way. There are sensors on the flat bar (see the picture) which are strapped to the side of the pipe that send a signal back to the meter telling how much water is being pumped through the pipe. The actual flow rate is measured in gallons per minute, which is very important for proper irrigation management.

In order to manage irrigation water you must understand the basic concept of irrigation system efficiency. No irrigation system is 100 percent efficient in applying water to the field; part of the water applied will not be available for use by the crop. Keep in mind that amounts of irrigation water are normally expressed as a depth, in inches of applied water. The net irrigation depth is the water which infiltrates into the soil and is stored in the root zone.

The inches of water applied per acre can be calculated if the irrigator knows the total volume of water pumped and the area irrigated. The total volume pumped can be easily

determined by having the Twin Platte Natural Resources District come out and measure it for you with our Ultrasonic Flow Meter. The reading from the meter will give you the gallons per minute (gpm) being pumped which can be calculated to an hour meter reading. The total volume applied to the irrigated area is calculated by multiplying the flow rate times the irrigation time.

Key relationships:

450 gpm=1cfs=1 acre-in./hr

1 acre-in.=27,154 gal

1 acre-ft=325,851 gal

The following example shows how the flow rate and time information is used.



If the Ultrasonic Flow Meter indicates your pumping rate is 600 gpm, and the hour meter shows you pumped for 84 hr, the total volume pumped is:

600 gpm

450 gpm=1.33 acre-in./hr

(1.33 acre-in./hr) x 84 hr = 111.72 acre-in. To find inches applied divide 111.72 acre-in

irrigated acres = inches applied

There is a service fee charged for District personnel to come out and measure your irrigation systems. The service fee is \$50.00 for the first site and \$25.00 for each additional site measured for the producer per visit.

Knowing the amount of water being applied to any field is only one step to proper management. With all the differences between soils and even within a soil series in any field the amount of water intake, storage, and movement may vary greatly. It is very important to know what carryover nutrients that the soil and water may provide to the new crop. By sampling the irrigation water for nitrogen and taking soil samples for nutrients you may be able to credit these nutrients back to the crop. This helps you learn a key factor to better crop management. **The Twin Platte Natural Resources District has a soil testing cost-share program for producers in the District.** Cost share of \$15 per sample for each 40-acre sample with a limit of \$300.00 per producer per year is available.



The Twin Platte Natural Resources District is proud to present the 1999 Tree Award to Dave, Denise & Meghan Manary.

1999 TREE AWARD Dave & Denise Manary

Dave and Denise Manary operate a ranch 10 miles northwest of North Platte. When Dave was a youngster visiting his grandparents' ranch he frequently admired the nearby ranch of Fred and Nellie Jackson. The Jackson property was especially appealing to Dave because of the numerous trees and the six acre spring fed pond. The pond is the headwaters of the White Horse Creek. As a young man Dave hoped to someday own the Jackson place, a goal he never forgot.

Dave and Denise bought the Jackson's original home and quarter section in the winter of 1984. At first, Dave and Denise wondered if they had acquired a bigger job than they could manage. Their task seemed enormous and they wondered where to start. Dave's dad, Chub Manary, gave them some excellent advice. He thought the first thing they should do was to plant a new windbreak. Dave and Denise have planted trees every spring since 1985. In the spring of 1985 they planted 685 Eastern Red cedars through a Twin Platte Natural Resource District cost-share program. Dave and Denise installed a drip irrigation system for watering the trees. The next year they repeated this with another 347 cedars. In 1987, 525 trees of several varieties were planted and drip irrigated through the Twin Platte Natural Resources District cost-share program. In 1996 another 1,069 trees were planted. Dave and Denise also had 8,200 feet of water conservation mulch installed on the trees. Over the years they have planted 4,223 trees and shrubs. They have planted a large variety of species, but cedars, junipers, honeylocusts, and cottonwoods have been the most successful. Numerous berry producing shrubs have also thrived.

Dave and Denise have had a high rate of tree and shrub survival. They attribute this to several key factors

including, irrigation, water conservation mulch, pest and disease control, species selection, regular replanting, timely and correct pruning, and fencing that excludes livestock. Dave and Denise have made their tree and shrub program a high priority and devote considerable time and effort to it each year.

Dave and Denise have completed several other conservation and wildlife habitat projects. The six acre pond was dredged and the existing dam was restored. A second dam was constructed creating a water fowl pond of about three acres. Dave and Denise restored the old dam and dredged the pond at their own expense.

The resulting condition of the water is much improved for wildlife. The water is now deeper and extremely clear. The clear water encourages aquatic plant growth which provides oxygen for the fish and frogs and provides food for innumerable ducks and other waterfowl. Dave and Denise fenced about 10 acres surrounding the old pond to prevent grazing and to create more wildlife habitat. Dave and Denise have also fenced an additional 30 acres of pasture and marsh as part of the Wildlife Habitat Improvement Program. (WHIP)

Two Million and still Counting



The Twin Platte Natural Resources District is celebrating the planting of its two millionth tree. A cold and windy day was the setting of the momentous occasion. The Twin Platte Natural Resources District encourages conservation planting of trees and shrubs for windbreaks and wildlife habitat.

On a day where windbreaks could be appreciated the two millionth tree was planted on the north side of the Lincoln County Fair grounds. Since the inception of the Natural Resources District in 1972, tree plantings have averaged 70,000 trees a year. The majority of the 70,000 have been distributed on a cost-share basis with the cooperators. "Producers know the importance of trees to provide protection for livestock and their homesteads as well as creating wildlife habitat," Dave Slattery, Conservation Programs Coordinator said. The goals of the Natural Resources District is to keep planting trees.



Pictured: Angie Blake planting trees with the tree planter

The Water Trailer

One of the more popular tools of the Twin Platte Natural Resources District is the water trailer. This is a hands on educational tool, which our staff uses to educate children, and adults about water and its different relationships. The water trailer can simulate but is not limited to, the flow of a river, erosion, sedimentation, ground water flow, ground water contamination and watersheds. This is a wonderful addition to a science lesson on water, the water cycle, or just a fun learning experiment for the entire group. The water trailer is not only limited to school activities, but may be used at meetings or different club activities. The water trailer is used outside and preferably in good weather. If you have any questions or would like to schedule our staff to come and demonstrate the water trailer please call our office.



Water Quality and Quantity Around the District

The Twin Platte Natural Resources District Water Resources Sub-Committee reported to the Board of Directors the annual water level results. The news for the District is good. As a whole the water levels in the District are up 1.60 feet from the 1983 base line levels.

The results of the 1999 water quality sampling throughout the District is good news. The quality of the entire District is good with the exception of a few areas of high localized nitrates. The District staff is spending time working in these target areas with the people in these areas to get a better understanding of the problem and how it might best be solved. The good news is that management is not needed for ground water quality or quantity in the district.

Chemigation Notes

Chemigation renewal permit applications were sent in February to those who had active permits last year in the Twin Platte Natural Resources District. To renew chemigation permits, return the completed permit application with the \$10 per site fee to the District office by **5 p.m. on June 1, 2000**. The District treats renewal permit applications received **after** the June 1 deadline as new permits, which cost \$30 and require an anti-pollution equipment inspection. Contact the District office if you did not receive your renewal permit applications or if you will be adding new systems this year where chemigation permits will be needed.

A certified chemigation applicator is required for each permitted chemigation system. The yellow certification card is valid for four years after successfully completing the training offered by the Extension Service. If you need to become certified for chemigation, contact the Extension office to find out what opportunities remain for certification training.

Check your anti-pollution equipment before chemigation season arrives. This will allow you to find and make repairs before you actually need to use the equipment. The items checked during the periodic inspections carried out by the District include the irrigation pipeline check valve, vacuum relief valve, low pressure drain with an outlet 20 feet from the well, chemical line injection valve and the simultaneous interlock device. If these items are functioning properly, your groundwater should be protected from direct exposure to fertilizers and other agricultural chemicals.

If the District does not schedule your chemigation system for an inspection this year, you may still request a District inspection to provide assurance that your system is functioning properly. Call the District office for more information on chemigation anti-pollution equipment requirements or to request an inspection.

NOTICE!!

Before you drill a new well within **50 feet of the edge of a stream or river, or on an island in the Platte River** contact the Department of Water Resources in Lincoln at (402)471-2663.

Twin Platte Natural Resources District

Board of Directors.....	Sub-District
Kent Boyer.....(H)368-7275.....	4 (Chairperson)
Jim Rubenthaler.....(H)584-3578.....	At-large (Vice-Chairperson)
Doug Stack.....(W)535-8308.....	3 (Secretary)
Jim Meismer.....(H)284-6509.....	5 (Treasurer)
Bob Peterson.....(H)532-2689.....	2
Joe Wahlgren.....(H)537-3136.....	2
Todd Kramer.....(H)764-2421.....	1
Jeff Baldrige.....(H)534-7780.....	1
Roric Paulman.....(H)386-4413.....	4
Jerry Weaver.....(W)534-9240.....	3
Frank Svoboda.....(H)284-3147.....	5

Staff Members.....	Position
Kent O. Miller.....	General Manager
Dave Slattery.....	Conservation Programs Coordinator
Bill Carhart.....	Range Programs Coordinator
Glen Bowers.....	Water Programs Coordinator
Ann Fisher.....	Water Programs Technician
Ardis Lehmkuhler.....	Administrative Assistant
Kathy Clark.....	Field Office Secretary, North Platte NRCS

Natural Resources News is the official publication of the Twin Platte Natural Resources District. This quarterly publication is partially funded by a 319 Grant from the U.S. Environmental Protection Agency through the Nebraska Department of Environmental Quality. If you have any questions, comments, suggestions, or would like to be placed on our mailing list please feel free to submit them to:

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North Platte, NE 69103-1347
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e-mail: tprnd@nponline.net

Scholarships available for students to attend camps!

The District will provide scholarships to youth ages 14-18 that are interested in the Range Youth Camp or the Sandhills Academy. The Range camp features a blend of educational and recreational activities, with the primary emphasis being on Range, Livestock and Range Management in the Nebraska sandhills while the Sandhills Academy is designed to give students a learning outdoor experience in one of America's most unique regions. The Sandhills Academy is jam-packed with field trips, tours, canoeing, rappelling, climbing, zipline, campfires and tons more. Explore the wide open sandhills landscape, discover the region's distinctive traditions and lifestyles, and experience the abundant wildlife resources. Both camps are held June 19- 23, 2000 at the Nebraska State 4-H Camp located in the Nebraska Forest near Halsey, Nebraska. Other scholarships may be available for students and teachers per request for environmental and conservation education and will be taken on a case by case basis.

Upcoming Events:

April

- 28 Arbor Day - Office Closed
- 29 Hazardous Waste Collection Day (tentative date)



May

- 11 Twin Platte Natural Resources District Board of Director's Meeting - 7:30 p.m. CDT*
- 29 Memorial Day - Office Closed



June

- 1 Deadline for chemigation permits (5pm)
- 5 Deadline for Range Camp and Sandhills Academy Scholarship Application
- 8 Twin Platte Natural Resources District Board of Director's Meeting - 7:30 p.m. CDT*

July

- 4 Independence Day - Office Closed
- 13 Twin Platte Natural Resources District Board of Director's Meeting - 7:30 p.m. CDT*

* Board Meetings are held in the United Nebraska Bank Center North Platte

Twin Platte

NATURAL RESOURCES DISTRICT

111 South Dewey Street
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Postal Patron