



Winter 2017

Volume 31, Issue 1

# Tri-Basin Topics

A quarterly publication of Tri-Basin Natural Resources District

## Holdrege Water Conference Set for January 31

The 2017 Holdrege Water Conference will be held Tuesday, January 31 at the Phelps County Ag Center. Registration will be at 10 a.m. and sessions will start at 10:30. There is no charge for admission to the conference and a free lunch will be provided for those attending. The program should conclude by 3 p.m.

The conference is sponsored by Tri-Basin Natural Resources District, Central Nebraska Public Power and Irrigation District, UNL Extension and Holdrege Area Chamber of Commerce. It is a joint effort to increase the understanding of water-related issues that affect agricultural producers in central Nebraska.

Area agri-businesses will display their products and services at the water conference and will have representatives on hand to visit with conference participants. The Natural Resources Conservation Service will also have a demonstration on setting up an account for their Client Conservation Gateway.

Producers in Tri-Basin NRD's Phase 2 or Phase 3 Groundwater Quality Management Areas will receive nitrogen management recertification credit for attending the conference.



Attendees listen to a presentation at the 2015 Holdrege Water Conference (the 2016 event was cancelled because of winter weather)



### 2017 Holdrege Water Conference Tentative Agenda

- 10:00 Registration
- 10:30 **NRCS Update and Client Conservation Gateway Presentation**  
*Kevin Breece and Brian Baskerville, NRCS*
- 11:00 **Irrigation Telemetry**  
*Marcia Trompke, Central Nebraska Public Power & Irrigation District*
- 11:40 **Pressure Regulator Demonstration**  
*Chuck Burr, Nebraska Extension*
- 12:10 Lunch
- 12:30 **Keynote: 2017 Climate Update and New Nebraska Mesonet Trends**  
*Al Dutcher, Nebraska Extension*
- 1:10 **Aqua Mart and Water Conservation Initiatives**  
*John Heaston, The Nature Conservancy*
- 2:00 **Platte Republican Diversion Project Feasibility Study**  
*John Thorburn, Tri-Basin NRD*
- 2:20 **Water Supplies in Tri-Basin NRD**  
*Cory Steinke, Central Nebraska Public Power & Irrigation District*  
*Nolan Little, Tri-Basin NRD*

"Dedicated to Conservation of our Natural Resources"

<http://www.tribasinprd.org>



## Manager's Message

by John Thorburn

### Nitrates

Nitrates—a form of the element nitrogen—are valuable as a source of fertilizer for corn and other crops. Nitrates are a by-product of the decomposition of plants and animal waste into organic matter, but they are also readily available from ammonia, urea and other nitrogen-rich substances. These products are applied as fertilizers on crop fields.

Nitrogen fertilizers provide farmers the benefit of increased productivity. They are necessary to sustain the productivity of any soil that is used for row crop production. They also benefit consumers by reducing the cost of food production. Man-made fertilizers made the “Green Revolution” of the 1960s possible.

The nitrate form of nitrogen is soluble in water, which helps it leach down through the soil into crop roots to feed plants. Unfortunately, this useful property of solubility can lead to a detrimental side-effect, because nitrates can move with water through the soil beyond the crop root zone. Once nitrate-laden water seeps below the root zone, gravity can carry those nitrates down to the water table, where they contaminate groundwater.

This problem first became evident in the late 1970s and early 1980s when researchers from the University of Nebraska, led by Dr. Roy Spalding, conducted widespread tests of groundwater quality in central Nebraska. These tests showed small amounts of nitrates, measured in parts per million (ppm), in groundwater. Nitrate contamination is typically associated with areas where there is widespread irrigated crop production. This widespread nitrogen contamination is known as “non-point source” pollution, because small amounts of nitrate are seeping into groundwater from many sources, as opposed to “point source pollution, such as a large spill of a chemical in one place, due to an accident.

Several factors caused this non-point source nitrate contamination. First, commercial fertilizer was initially pretty cheap, because it is produced from natural gas. This led

some farmers to think that “if some is good, more is better”, so they applied more fertilizer than their crops could effectively use. Second, irrigation water was generally applied through open ditches and siphon tubes into furrows between the rows of corn. This resulted in over-application of irrigation water, which accelerated nitrate leaching. Nitrate leaching is more rapid in sandy soils, such as are found in the Platte Valley.

Natural resources districts (NRDs) are responsible for protecting groundwater quality and quantity. When the nitrate contamination problem became evident, NRDs like Central Platte and Tri-Basin took action to address the problem. Tri-Basin NRD has had a groundwater quality management area in effect since 1989. Our rules limit the timing of fertilizer application to minimize leaching. They also require farmers to test their soil and water for nitrates and encourage them to give credit for this “free” fertilizer that is available for their crops. We also require farmers to attend educational programs that provide information about best management practices once every four years.

Regulations are necessary to deal with a widespread problem like non-point source pollution, but nitrate contamination is not a problem that can be solved with regulation alone. We are very fortunate that most central Nebraska farmers strive to farm more efficiently and want to protect the environment. They have become much more efficient irrigators over the past two decades, converting most furrow-irrigated cropland to center pivot irrigation. They have also learned how to produce record corn crops with smaller amounts of fertilizer applied in a more timely fashion, often through center pivots, so that fertilizer is used by crops instead of leaching into groundwater.

These efforts are paying off. Data from Tri-Basin’s extensive groundwater quality sampling program indicates that nitrate levels in groundwater in most of Kearney, Phelps and Gosper counties plateaued about ten years ago and are starting to decline. Nonetheless, some areas are still at risk of nitrate contamination, primarily due to sandy soils, so our rules will remain in place. More importantly, farmers will continue to improve the efficiency and effectiveness of their fertilizer and irrigation water use, which is the most certain protection for our groundwater supplies.

## Nebraska Natives

### Ponderosa Pine (*Pinus ponderosa*)

Ponderosa pine is native to northwest and northcentral Nebraska. It can withstand prolonged drought and is the best pine to use on severe sites. It is best used in east and south inside rows of windbreaks. At maturity, the ponderosa pine can reach 35 to 55 feet tall.

Zimmerman pine moths and Sphaeropsis (Diplodia) blight can be serious problems and can kill or deform trees if not controlled.



# Nitrogen Management Certification Classes Offered

The Groundwater Quality Management Areas established by Tri-Basin NRD have allowed district staff to work cooperatively with farmers and agronomists for more than 25 years to help improve the timeliness, efficiency and effectiveness of fertilizer application. These efforts have resulted in stable or declining nitrate-nitrogen levels in groundwater supplies throughout the district, thus safeguarding the quality of our groundwater.

Producers in Phase 2 and Phase 3 areas of the Groundwater Quality Management Area need to have current Nitrogen Management certification. The current schedule is listed below, but class times and dates are subject to change. For a current class schedule check our website at [www.tribasinrd.org](http://www.tribasinrd.org) or call us at 1-877-995-6688. Attendance at the Holdrege Water Conference on January 31 also qualifies for Nitrogen Management Certification (be sure to sign in for credit).

## 2017 TBNRD Nitrogen Management Trainings

### Holdrege - Phelps Co. Ag Center

January 18 .....9:30 a.m. and 1:30 p.m.  
 February 21.....9:30 a.m. and 7 p.m.  
 March 2 .....9:30 a.m.

### Minden - Kearney Co. Fairgrounds

January 25 ..... 1 p.m.  
 February 7..... 1:30 p.m.  
 March 9 ..... 8:30 a.m.

### Elwood - Gosper Co. Legion Hall

February 15..... 9:30 a.m. and 1:30 p.m.



## Jorgensen is New TBNRD Director

Greg Jorgensen is Tri-Basin NRD's new subdistrict 6 director. Jorgensen replaces Jeff Ryan of Heartwell, following November's election.

Greg and his wife, Sharon, live near Minden. Sharon works at the Gary Thompson Agency.

They have two grown children. In his free time, Greg enjoys playing golf.

## Chemigation Recertification to be Held

During the first part of January, Tri-Basin NRD will be sending out renewal forms to producers who had chemigation permits last year. Those producers whose chemigation certification has expired will need to attend one of the chemigation training sessions held in February and March. Currently, area trainings are set for February 1 in Lexington (time TBA), March 2 at 1:30 p.m. at the Phelps County Ag Center and March 28 at 1:30 p.m. at the Phelps County Ag Center. Additional trainings will be held in the region, but those dates and times have not yet been set. For more information about the trainings or to check on additional dates, call the Phelps County Extension Office at 308-995-4222.

Chemigation renewal permits are due in the Tri-Basin NRD office before June 1, 2017.

## TBNRD Offers Trees to Honor District Newborns

Tri-Basin NRD wants to help parents celebrate newborns in the district with the gift of a seedling tree. These trees are available to the family of any child born in Gosper, Phelps or Kearney County since the previous tree season (April 2016). You can reserve a baby tree for your newest family member by calling our office at (308) 995-6688 or 1-877-995-6688 or by emailing the baby's name, birthdate, parents' names, address and phone number to [nmunter@tribasinrd.org](mailto:nmunter@tribasinrd.org). We will send you a postcard in April letting you know when and where to pick up your tree. If you have any questions, please call our office and ask for Nate.



## Nitrogen Reports Due

Nitrogen Management Reports for the 2016 crop year were due December 31, 2016 for producers in Phase 2 and Phase 3 of the Tri-Basin Groundwater Quality Management Area. If you have fields in the Phase 2 or Phase 3 areas and have not turned in your reports yet, please do so as soon as possible. If you need reporting forms or help filling them out, please contact the Tri-Basin NRD office.



Winter 2017

# Tri-Basin Topics

Non-Profit Permit  
U. S. Postage  
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Holdrege, NE 68949  
Permit No. 220

**Tri-Basin Natural Resources District**  
1723 Burlington St. Holdrege, NE 68949  
(308) 995-6688  
email: [tribasin@tribasinrd.org](mailto:tribasin@tribasinrd.org)  
[www.tribasinrd.org](http://www.tribasinrd.org)

RETURN SERVICE REQUESTED

*Nebraska's NRDs: Protecting Lives, Protecting Property, Protecting the Future*

# CALENDAR

January 10.....NRD Board Meeting, 1:30 p.m.\*  
 January 16... NRD Closed for Martin Luther King, Jr. Day  
 January 31 ..... Holdrege Water Conference  
 February 14 .....NRD Board Meeting, 1:30 p.m.\*  
 February 20 .....NRD Closed for Presidents' Day  
 March 1..... Nebraska's 150th Birthday  
 March 14.....NRD Board Meeting, 1:30 p.m.\*

\* Times are tentative. All meetings are at TBNRD office in Holdrege unless otherwise noted.

### TRI-BASIN NRD BOARD OF DIRECTORS

David Olsen, Chairman .....	Minden, NE
Bradley Lundeen, Vice Chairman .....	Wilcox, NE
Joe Bilka, Treasurer .....	Holdrege, NE
Todd Garrelts, Secretary .....	Holdrege, NE
Brian Bergstrom .....	Axtell, NE
Mike Cavanaugh.....	Minden, NE
Ed Harris.....	Loomis, NE
Phyllis Johnson.....	Bertrand, NE
Greg Jorgensen.....	Minden, NE
Joe Larson .....	Loomis, NE
David Raffety .....	Kearney, NE
Larry Reynolds .....	Lexington, NE

### TRI-BASIN NRD STAFF

Charles Brooks .....	Land Resources Coordinator
Tammy Fahrenbruch .....	Water Programs Coordinator
Amy Dutton .....	Minden Office Secretary
Lori Hagan .....	Elwood Office Secretary
Nolan Little.....	Water Resources Manager
Carie Lynch.....	Administrative Secretary
Nate Munter.....	Land Resources Technician
Patrick Nott .....	Water Resources Technician
Tami Reese .....	Holdrege Office Secretary
Nicole Salisbury .....	Information & Education Coordinator
Esther Smith .....	Office Assistant
John Thorburn .....	General Manager
Jeff VanEperen.....	Seasonal Field Technician

A mailing list is maintained and requests to be placed on the list should be sent to the above address. Comments and suggestions may be addressed to the General Manager.

***Get Tri-Basin Topics in your inbox instead of your mailbox!***

To request an electronic version of this newsletter, send an email [nsalisbury@tribasinrd.org](mailto:nsalisbury@tribasinrd.org).

**TRI-BASIN NATURAL RESOURCES DISTRICT  
2017 HAND PLANT ORDER FORM**

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CITY/STATE/ZIP: \_\_\_\_\_ PHONE: \_\_\_\_\_

ORDERS MUST BE IN MULTIPLES OF 25.

Tree Order Deadline is April 3, 2017.

QUANTITY	SPECIES
	<b>CONIFERS</b>
	AUSTRIAN PINE
	COLORADO BLUE SPRUCE
	PONDEROSA PINE
	RED CEDAR
	<b>BROADLEAFS</b>
	BLACK WALNUT
	BUR OAK
	HACKBERRY
	RED OAK
	SWAMP WHITE OAK
	<b>SHRUBS</b>
	AMERICAN PLUM
	CHOKECHERRY
	COTONEASTER
	ELDERBERRY
	GOLDEN CURRANT
	LILAC
	SAND CHERRY
	SKUNKBUSH SUMAC
	<b>Total # of Trees</b>
	<b>Multiply total # of trees x .75</b>
	<b>Mulch x .35/foot</b>
	<b>Staples x .15</b>
	<b>Subtotal</b>
	<b>Tax (Holdrege 7%, Elwood 6%, Minden 7.5%)</b>
	<b>TOTAL AMOUNT DUE/PAID</b>

Tree Pickup will be at: \_\_\_\_\_ Tri-Basin NRD \_\_\_\_\_ Minden NRCS \_\_\_\_\_ Elwood NRCS

# WHY PLANT A WINDBREAK?

Windbreaks and shelterbelts provide many benefits. Windbreaks planted along field boundaries reduce soil erosion by reducing wind velocity. Shelterbelts planted around farmsteads reduce heating costs in homes and shop buildings. Shelterbelts can protect livestock from blizzards and serve as "living snow fences." Trees and shrubs also provide food, shelter and nesting habitat for many species of birds and mammals.

## NRD TREE & SHRUB PLANTINGS

Contact the NRD Office or your county NRCS for help with determining the type and number of trees and shrubs you need. The technician will make arrangements for the tree order and planting service. The NRD will plant the trees according to the plan.

Trees are planted in the spring as soon as conditions are suitable. The NRD tree planting crew will notify landowners of the approximate date and time of planting.

## SITE PREPARATION

Good site preparation is a key to rapid tree growth and survival. The best site preparation begins the year before the trees are planted. On heavier soils, working the ground to kill competing vegetation is an excellent method of preparing the site. The technician assisting in planning a windbreak or habitat plot can advise you about the type of site preparation needed. The technician can also help you determine if herbicide carryover will be a problem.

## WEED CONTROL

Weed control in the form of plastic mulch is available through the district. This woven material is installed over the trees after planting. Slots are then cut for the trees. Plastic mulch not only eliminates weeds but also helps to preserve soil moisture.

## PRICES

Trees & Shrubs..... 75¢ each/multiples of 25

## PLANTING SERVICE

Tree planting (no mulch) ..... 50¢/ft

Trees, tree planting, mulch and mulch laying..... \$ 1.50/ft

Drip tape ..... 35¢/ft

Site Prep..... 20¢/ft

Pull-in Charge..... \$20

Drip Tape Set-Up..... Minimum \$35

Renovations\* ..... \$200

Shrub thickets\* ..... \$200

Minimum plan charge \$350 per planting

Plastic Mulch (Material Only)..... 35¢ per ft

Stakes..... 15¢ each

Seedling Tubes..... \$1.10 each

**Prices are subject to change.**

\*Contact Tri-Basin NRD for site review.

## PLANTING YOUR OWN TREES

You can order trees and shrubs at the NRD or your local NRCS Office. Orders must be in multiples of 25 per species. We will send you a postcard when your trees arrive. We also have tree spades available to rent.

## DRIP TAPE

Tri-Basin has subsurface "drip tape" available for watering trees planted by the District. The water source could be a portable tank or a hydrant. Check with the TBNRD Land Resource Coordinator for more information.

## COST-SHARE

Tri-Basin NRD offers cost-share funds for tree plantings and plastic mulch installation. You should apply at your county NRCS office before March 1.

All sites must be properly prepared before planting to qualify for cost-share. Reimbursement is made only after full payment is received. The minimum total cost of plantings eligible for cost-share is \$500.

Cost-share may also be available from your county USDA office. Pheasants Forever and Nebraska Game & Parks Commission also offer programs for wildlife habitat improvement. NRCS staff can help you determine which programs have funds available and best suit your needs.

## BILLING ON NRD PLANTINGS

Tri-Basin NRD bills for trees/tree planting service after completion. Full payment is due upon receipt of the billing. Cost-share payments will not be made until payment is received at the Tri-Basin or NRCS office.