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Nebraska's NRDs . . .
Protecting Lives, Protecting
Property, Protecting the Future.

IN THE LOUP is a publication of the Lower Loup Natural Resources District. It is published quarterly by the LLNRD and is distributed to the residents of the 16 counties that make up the District. IN THE LOUP is edited by Alan J. Bartels, Information & Education Coordinator.

2023-2024 Conservation Tree Sales

Conservation tree sales have begun in the Lower Loup NRD. Planning for trees can start at your local NRCS office. You may also order trees online at www.llnrd.org. For more information, call (308) 728-3221.

Lower Loup Natural Resources District Tree Order Form

Conifers

- ___ Austrian Pine
- ___ Black Hills Spruce (6 cu. in. contain.)
- ___ Black Hills Spruce (20 cu. in. contain.)
- ___ Colorado Blue Spruce (bare root)
- ___ Colorado Blue Spruce (6 cu. in. contain.)
- ___ Eastern Redcedar
- ___ Jack Pine
- ___ Norway Spruce
- ___ Ponderosa Pine (6 cu. in. container)
- ___ Ponderosa Pine (20 cu. in. container)
- ___ Ponderosa Pine (bare root)
- ___ Rocky Mountain Juniper
- ___ South Western White Pine

Broadleaves

- ___ American Elm
- ___ Black Cherry
- ___ Black Walnut
- ___ Bur Oak
- ___ Catalpa
- ___ Cottonwood (Hybrid)
- ___ Cottonwood (Native)
- ___ Crabapple
- ___ Hackberry
- ___ Honeylocust
- ___ Manchurian Apricot
- ___ Red Oak
- ___ Silver Maple
- ___ Swamp White Oak

Shrubs (Cont.)

- ___ Elderberry
- ___ False Indigo
- ___ Golden Currant
- ___ Hazelnut
- ___ Red Osier Dogwood
- ___ Sandcherry
- ___ Serviceberry
- ___ Skunkbush Sumac
- ___ Woods Rose
- ___ Vilosa Lilac

Shrubs

- ___ American Plum
- ___ Amur Maple
- ___ Buffaloberry
- ___ Caragana
- ___ Common Lilac
- ___ Chokecherry
- ___ Cotoneaster (Centennial)
- ___ Cotoneaster (Peking)

**** Individuals interested in tree species not listed here may check availability by calling Conservation Forester Aron Lewis at (308) 728-3221.**

Trees and shrubs are \$1.20 per seedling plus sales tax. Each species must be ordered in lots of 25. Container trees should be ordered in lots of 20. Container tree pricing: 6 cu. in. \$1.20 and 20 cu. in. \$3.25. ***** Please do not pay for your order until confirmed by your field office or until an invoice is received.**

The minimum charge for machine planting of trees is \$250. Sales tax will apply to all orders. Orders for machine planted trees must be received by April 1st. Conservation tree seedlings are not guaranteed.

Name _____
Address _____
City _____
Zip Code _____ Phone _____

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IN THE LOUP

'Ditch' Flood Irrigation to Improve Efficiency, Save Water, & Save Money

Watering crops through furrow/flood irrigation is not very efficient. A lot of water ends up being paid for that never reaches the intended crop.

Uneven application is the norm with furrow/flood irrigation, with water overapplied at the upper end of the field and typically underapplied toward the lower end. Over- and under-watering both leave crops at risk of stunted growth and disease (there goes your yield). And when that water leaches or runs off, expensive nutrients move out of the reach of crop roots toward groundwater aquifers, streams, private wells, and municipal water supplies. On top of that, some of that wasted water simply evaporates into thin air, and our producers' hard-earned dollars along with it.

"A center pivot is 90% efficient compared to the gravity pipeline, which is only 65% in getting water on the crops," said Curtis Scheele, a conservationist with the Natural Resources Conservation Service. "A center pivot spreads the water uniformly across the field whereas a gravity pipeline overirrigates the upper portion of the field and underirrigates the lower portion. Center pivots will increase profits by increasing average yield across the field. Also, because of the efficiency benefits, it takes less time to get across a field with a center pivot than a gravity pipeline. During a drought, this can really pay dividends."

The benefits of making the switch from flood irrigation to a pivot system are many.

"A center pivot can reduce annual costs compared to a gravity pipeline due to less pumping, less nitrogen applied, and less water applied," Scheele said. "Other cost savings come from less tractor/machinery wear due to less tillage with a center pivot. The labor savings gained from a center pivot over gravity pipeline provides more time for other things such as family, etc."

"A large benefit of a center pivot over a gravity pipeline is the ability to apply water whenever you need it with the amount of water you want. This can include watering up a crop in the spring, preparing a good seedbed in a severe drought, being able to water wheat or a cover crop in the fall if needed, etc. Additional benefits of a center pivot over a gravity pipeline are applying and activating chemicals and fertilizer in the spring, fertigating nitrogen over the course of the year when the crops need it, and the ability to have the tillage system that best fits your operation."

Finding and keeping workers can be challenging these days. With no need to lay pipe or move siphon tubes, less labor is required to run pivots. In fact, pivots



Flood irrigation is less efficient than pivot irrigation.

can be turned on and off with the push of a button, or even remotely from the house, barn, or from across the country with a smartphone.

The number of furrow/flood irrigated acres in Nebraska has decreased from 2.4 million acres to approximately 1.5 million acres in the past 10 years. But there is still a long way to go, and a lot of water (and money) that can be saved for raising the next crop.

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Plan Now for Spring Conservation Tree Planting

Winter is rapidly approaching, but the tree experts at the Lower Loup NRD urge residents and landowners to begin planning now for spring tree planting.

The most successful tree plantings begin with early planning, especially when trees will be planted on sod or alfalfa sites. Aggressive sod-forming grasses, like smooth brome grass and reed canary grass, and alfalfa, compete with tree seedlings for moisture. These competing plants should be eliminated from the tree planting site unless fabric mulch (a woven black plastic material placed near and around the tree seedlings) is being utilized or the sod is killed back from the tree row at least twice a year until the trees are old enough to shade out the grass.

This control can also be accomplished by spraying the site with the appropriate

labeled herbicide for chemical control and/or by tilling to kill the vegetation. Seeding a cover crop may be required to control erosion while also providing wildlife benefits. Tree seedlings can be planted in the cover crop residue the following spring. Survival and growth of tree seedlings may be severely reduced when proper site preparation is not completed well in advance of planting time.

The Lower Loup NRD offers a fall tree spraying program to help reduce the effects of unwanted vegetation during the following growing season. Call (308) 728-3221 for information about planting conservation trees on your land.



Site preparation increases tree survival.

Longtime Forester Woollen Retires



Richard Woollen

Planting trees is a big deal for the Lower Loup NRD. It's been big for Richard Woollen, too. Since Nebraska's NRDs were formed in 1972, the Lower Loup NRD has planted more than 12 million trees. During a 30-year career spent jointly with the Nebraska Forest Service and Lower Loup NRD as the District Forester, Woollen oversaw the planting of many of those trees.

He grew up at Wilcox. After high school, Woollen studied wildlife management at the University of Nebraska – Lincoln. He later earned his private pilot's license and flew commercially before returning to the family farm. The forestry degree he later earned at the University of Idaho came in handy when the District Forester position opened in Ord in 1993. Woollen and his wife, Leann, raised five children in Ord.

Woollen intends to stay busy during retirement. He is still involved with the family farm near Wilcox, and the Woollens plan on "doing a little travel."

When asked if he had any last tree advice for the citizens of the District, Woollen said "I just hope that people will consider the benefits of trees. People take them for granted, for a time I did too, but trees function in the landscape for our benefit."

Woollen went on to say, "It probably would have been easier to have been a forester somewhere where there is actually an abundance of forest, but by working here I got to do a lot of different things," Woollen said. "I was surrounded by good, supportive people, and this was pretty rewarding."

A Message From The Manager

The people employed by the Lower Loup NRD include a varied crew of technicians who truly are experts in their fields.

This time of year is tree season at the Lower Loup NRD – we have planted more than 12 million trees since our founding in 1972. This year my staff will add more seedlings to that towering tree tally, with tens of thousands being machine planted by our tree crews. Many of the mature windbreaks standing across the district today were planted decades ago by Lower Loup NRD technicians.

Our technicians have also been busy recording fall static water levels. These readings allow us, and the producers who we share the data with, to see the status of groundwater levels after irrigation season ends.

Elsewhere in the field, we are hard at work on an innovative project to track the movement of nitrates through the soil profile. My techs are taking soil samples year-round from the vadose zone, the area from the land surface to the aquifer, in a variety of sites. These include irrigated and dryland fields, crop fields where manure is applied, fields that are side-dressed or where anhydrous ammonia is applied, pastures, and even residential lawns. The mountains of data being gathered will help us determine which fertilizer application practices best protect our water resources.

For many residents and producers, crossing paths with these hardworking field technicians may be their only interaction with the Lower Loup NRD.



LLNRD General Manager Russell Callan

They always appreciate a friendly wave. And feel free to flag them down if you have any questions. They will have an answer for you or know where to get it. Each one is ultimately working to protect YOUR natural resources.

LLNRD Board of Directors Approves Advanced Soil Sampling Cost-Share Program

The Board of Directors of the Lower Loup NRD (LLNRD) has approved funding for a district-wide Advanced Soil Sampling Cost-Share program. The approved amount is \$75,000 annually, with \$50,000 being committed to district-wide sampling and the remainder committed to the Phase II Water Quality Management Areas and vulnerable fields identified by the LLNRD's new Nitrogen Vulnerability Model.

The purpose of the LLNRD's new Advanced Soil Sampling Cost-Share program is to encourage landowners to adopt advanced soil sampling analysis with the intent of reducing nutrient input and improving soil health across the entire Lower Loup Natural Resources District. Examples of advanced soil sampling include the Haney Test, Soil Health Assessment,



Sign up for soil sampling cost-share at your local NRCS office.

and the Complete Soil Analysis Test. These advanced tests look at many factors to determine the quantities of each nutrient available to crops and to microbes in the soil.

To qualify for the LLNRD Advanced Soil Sampling Cost-Share program, landowners must have certified irrigated acres and must use an approved soil testing method. The LLNRD would then cost share up to \$55 per soil sample, up to eight soil samples per year, for four years. Landowners will also be required to conduct 36-inch-deep soil nitrate tests, the cost of which will be covered by the LLNRD up to \$15 per soil sample.

The funding for this program became available in July 2023. Landowners can sign up at their local NRCS office.