STUTSMAN COUNTY SOIL CONSERVATION DISTRICT

Soil Movement

Stutsman County Soil Conservation District | September 2022 | www.stutsmanscd.net

Tree Season Report

Kade Thompson Tree Program Manager

Tree planting got off to a later start this year and mother nature provided some rain delays, but with the help of two outstanding seasonals, we planted close to 130,000 feet of trees and shrubs. I can't thank my seasonals, Antonio Ruiz and Sydney Dawson enough for their contributions this spring.

The deadline for the OHF application for 2023 has passed, however, I'm still willing to plant trees without cost share or make plans for the 2024 tree season.

Tree Planning Never Ends

The Stutsman County SCD is here year round to work with you on your tree plantings. Currently we are still planning trees for 2023. If you want to plant in a different year that is fine, we still want you to come visit with us and get a plan made. There may be different cost-share opportunities to look at and see if you can qualify for. We have also attached our order form for any anyone ordering trees to plant themselves. Remember the best time to plant a tree was 20 years ago, the second best time is now—Chinese Proverb

Caring for Trees After Planting

Dustin Krueger

Photo above taken

June 17th, 2022

The first few years are critical for new planted trees. This spring was great for trees with lots of moisture I recorded 6.2 inches in May, but then came June. Rains became more spread out and less amounts, I recorded 2.9 inches in June with one storm accounting for 1.8 inches, July had 1.2 inches over four rain events and one was .7 inches, and August gave us a whopping .9 inches in two events. This goes to show that these trees if not watered are going to stress and set them back as they are fighting for water. A good rule of thumb is trees need 10 gallons of water for every inch of diameter. I'm going to lay out what I have done for my trees planted this spring and the work that needs to be put into after tree planting.

My trees were planted on May 18 and fabric was laid on June 3. I first watered trees on June 10 as we did not have a rain event since May 31. I have watered a total of 5 times every 7-10 days, if it rained a significant amount (I say .5 inches) in-between days I started my day count over. It takes between 9-14 person hours to water trees depending on how long the hose is left on tree, we shot for between 20-30 seconds. We have a 1000-gallon steal tank that has two 100 ft garden hoses coming out the back and is gravity fed.

I was also dealing with deer browsing on trees. Browsing deer are another stress for trees as they eat the new leaf growth and then instead of putting root down into the ground, they put out more leaves. I started putting Plantskydd on June 18 and saw a significant improvement on tree growth. (Plantskydd is a deer repellant that is sold at the Soil Conservation District Office.) I have applied Plantskydd every 3 weeks since the first spraying. I have noticed if I wait a few days after I will notice some deer browsing. If deer browsing is not managed, they will browse on trees and never allow them to grow correctly.

As I mentioned earlier, we applied weed barrier fabric to our trees. This does not mean that the trees all the sudden become a no maintenance problem. Fabric is just another tool to use to have better success rate of trees including holding moisture in and reducing the weed and grass pressure. We have pulled weeds three different times July 3, 23, and August 20. Weeds will compete for moisture and sun as they grow faster than most trees. Waiting too long to pull weeds also poses a problem as you pull that weed out it loosens the soil around the tree and potentials could harm the tree or it may pull out the tree out with the weeds. Staying on top of this is very importance, also makes your planting look aesthetically pleasing seeing your trees instead of weeds.

Picture to the left August 7th,2022

Total hours this summer caring for trees is at 91 hours.

Plant Diversity

The Soil Health foundation consists of five principles which are: soil armor, minimizing soil disturbance, plant diversity, continual live plant/root, and livestock integrations. This article will discuss the third principle, plant diversity.

In this third of five articles on soil health, Jay Explains the concept of “plant diversity” and why providing plant diversity is important for building soil health.

The journals of Lewis and Clark describe the northern plains landscape as having abundant plant diversity. Numerous species where observed, working together as a plant community to provide forage for large herbivore populations. Our soils were built over geological time in this environment.

However, settlement of the pains brought agriculture, which resulted in the polyculture perennial landscape being replaced by a monoculture annual landscape. Where the soil food web use to receive carbon exudates (food) from a diversity of perennial plants harvesting sunlight and carbon dioxide; it now receives carbon exudates from only one annual plant at a time.

We can start to mimic the original plant community by using crop rotations which include all four crop types. Diverse crop rotations provide more biodiversity, benefiting the soil food web; which in turn improves rainfall infiltration and nutrient cycling, while reducing disease and pests. Crop rotations can also be designed to include crops which are; high water users, low water users, tap root, fibrous root, high carbon crops, low carbon crops, legumes, and non-legumes to name a few.

The following lists the four crop types with a few common crop examples of each:

- Warm Season Grass—corn, sudan, and millet.
- Warm Season Broadleaf—sunflower, and soybean.
- Cool Season Grass—wheat, oat, barley, and rye.
- Cool Season Broadleaf—flax, pea, and lentil.

Diverse crop rotations mimic our original plant diversity landscapes. They are important to the long-term sustainability of our soil resource and food security.

NRCS Photo Caption: The photo shows harvesting a cool season grass (spring wheat) at the Menoken Farm, August 3, 2016. Previous crops grown on this field include warm season grass (corn), cool season broadleaf (pea), warm season broadleaf (soybean), and cover crops.

Supplying the soil resource with the benefits of plant diversity.

Information is from the NRCS/USDA website and article written by Jay Fuhrer, NRCS Soil Health Specialist.

Biodiversity on Rangelands: What Role Does Grazing Have?

Krista Ehlert

Assistant Professor &SDSU Extension Range Specialist

What is biodiversity?

We often think of biodiversity in the context of animals, such as those that are threatened or endangered; however, biodiversity is equally important among plants, which are found throughout South Dakota and in particular, in our rangelands. Biodiversity is defined as the variability among living organisms, and quite simply can be thought of as "the spice of life." It can exist at multiple spatial scales, which means we can talk about biodiversity at small scales (species) or extremely large scales (across an ecosystem or landscape). Biodiversity is not static and can vary over time. Without biodiversity, our ecosystems across the world would look and function very differently, including those found in South Dakota.

Why is biodiversity important?

Aesthetics, economics, and ecosystem services are some of the key reasons why biodiversity is important. Most people appreciate the look of a rangeland covered in perennial grasses such as Western wheatgrass that is scattered with purple coneflower, scarlet globemallow, spiderwort, and milkweed, to name a few. This heterogeneous mix of plant species creates visual interest and is great to enjoy during recreational pursuits such as hunting or hiking. At the same time, there are direct benefits to having a heterogeneous or multi-species mix of plants. Benefits include food and fiber production, and forage for grazing animals, which have tangible economic benefits. Less obvious, but equally important benefits include the functioning of key ecosystem services such as mitigating climate and moderating weather, soil creation and stabilization, nutrient cycling, and water storage and purification. Further, a diverse array of cover, nesting sites, and food sources allow for several species – and therefore, diversity – of wildlife to co-exist. Ultimately, biodiversity is important for ecosystems and should be included in things to consider in managing rangelands and has been recognized as such by the Society for Range Management.

How does grazing influence biodiversity?

Livestock producers have a direct role in maintaining and creating biodiversity in grassland ecosystems, by choosing when, where, and how long to graze. The relationship between biodiversity and grazing is complex and has been evolving ever since grazing animals were on the landscape.

Grazing can create positive and negative effects on biodiversity. For example, continuous heavy grazing and trampling can result in rare plants being outplaced from a system. Indirect effects of heavy grazing can be felt by wide-ranging vertebrates, such as predators and carrion-eaters (i.e. scavengers), that are sometimes jeopardized by heavy grazing. In contrast, the short-grass steppe ecosystems that are the result of heavy grazing pressure provide the mountain plover with nesting habitat. Thus, livestock grazing can enhance the conservation of particular species.

Finding the balance between seeing grazing as the means to an end (livestock production) and a tool to increase the production, biodiversity, and resiliency of grassland systems requires some practice. Ranchers can alter the time, intensity, and duration of grazing, rest period length, and type of livestock to create different vegetation heights, and the kind and amount of plants. Moderate grazing and trampling, for Continue on page ( )

Continue from Biodiversity on Rangelands: What Role Does Grazing Have?

example, can increase plant diversity by decreasing the ability of one species becoming dominant. In contrast, heavy grazing can shift native, perennial grass rangeland into range that is dominated by short-grass species such as buffalograss and Kentucky bluegrass, as the heavy grazing pressure will have pushed out the more 'sensitive' native grasses like Western wheatgrass and allowed the more 'tough' and competitive shortgrasses to take over. At the same time, however, heavy grazing can be a tool to create biodiversity in other scenarios. If you have a pasture dominated by a cool season, introduced grass like smooth brome and you would like to increase the diversity of that pasture, you could graze that pasture heavy and early in the season to decrease its competitiveness and give native perennial species an edge. Grazing in this scenario will create gaps in the plant community, making light, moisture, and nutrients more available for species that emerge slightly later like Western Wheatgrass, helping them get established. Increasing rest periods can result in greater vegetation height but requires flexibility within your operation to accommodate this.

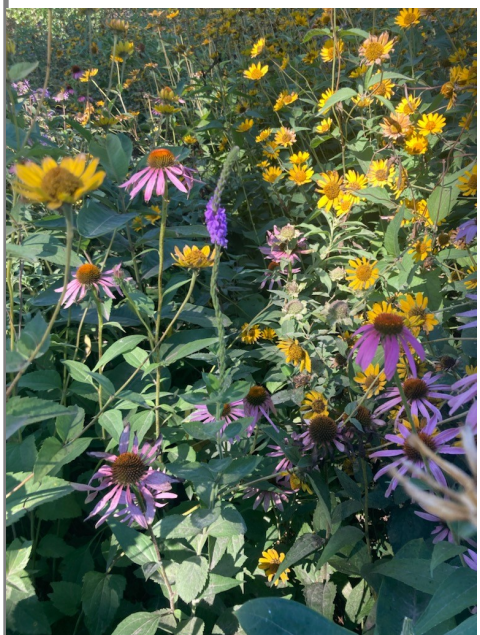
Why should you care about plant biodiversity?

We can dig deeper into why plant biodiversity is important by thinking of factory workers. In a car factory, for example, there are workers who do the engine installation, workers who put the hood on, workers who put the wheels on the car and so on. The big picture is this: the car is not made and cannot function without each of those workers doing their part. If the car ends up with only 3 wheels, it will not function the same as it would if it had all 4 wheels on. The car could maybe hobble down the road, but it won't get too much further than a block, and if it needs to change direction, it can't. The same can be said of grassland systems – without a multitude of individual plants, the system will slowly move forward and then stop. With a variety of plants – grasses, forbs, and shrubs – the system can continually evolve and respond to change, such as drought or wildfire. Whether or not a system can respond to change is up to the driver's decisions; so, consider your management decisions as a producer in the grand scheme of your goals and see if there's room to use grazing as a tool to increase the production, biodiversity, and resiliency of your rangeland.

Published by SDSU Extension

NRCS Happenings

Hello everyone, we have a deadline coming up in September. Our EQIP (Environmental Quality Incentives Program) has a signup deadline of September 23rd, 2022, if you want to try to use the 2023 funding pools for your conservation goals.



There are a few different funding pools we offer, the local work group fund covers our incentives like No-till, cover crops and nutrient management on cropland and has funds for grazing lands such as fence and water developments for grazing systems.

Some of the other funding pools that are in EQIP are:

Forestry for windbreak/shelterbelt renovation and plantings.
Irrigation which is for system conversion from high to low pressure and precision water management
High Tunnels
Wildlife pool for wildlife habitat practices
We also have a separate funding pool for our organic producers for their practices and operations.

If you have any questions, please contact the office at (701) 252-2521 ext. 3.

STUTSMAN COUNTY SOIL CONSERVATION DISTRICT

Stutsman County Soil Conservation District 701-252-2521 ext 3 www.stutsmanscd.net

2023 Hand Plant Tree Order Form

$2 Each (bundles of 25 same species trees: bulk rate: $45) Tall Stock is $4.00 each

Quantity	Species	Height	Wildlife Value	Drought Tolerance	Description
	Shrubs				
	Buffaloberry *	6-14 ft	Excellent	Good	Thorny, tolerates infertile soils, berries for jellies
	Caragana	6-14 ft	Good	Good	Very hardy, yellow flowers, produces pods
	Cherry, Nanking *	6-10 ft	Excellent	Fair	Suckering, white flowers in spring, red fruit late summer, prefers sun
	Cherry, Sand *	3-6 ft	Good	Fair	Short lived, edible dark purple to black fruit
	Chokeberry, McKenzie Black	5-8 ft	Good	Poor	Aronia berries can be canned whole or the juice extracted for jelly and drinks
	Chokecherry, Common*	12-15 ft	Excellent	Fair	Suckering, fruit for jams and jellies
	Cotoneaster, Pekin	6-8 ft	Fair	Poor	Round-topped shrub, foliage is shiny green. Fruit is nearly black
	Cranberry, Highbush*	8-12 ft	Excellent	Fair	white flowers, berries for jellies/jams. Fruit eaten by birds
	Currant, Golden *	3-6 ft	Excellent	Fair	Fragrant, yellow, clove-scented flowers; dark, tart, edible fruit
	Dogwood, Redosier *	6-10 ft	Good	Poor	Multi-stemmed, suckering; stems are dark red, white fruit clusters
	Hazelnut	6-8 ft	Good	Fair	Multi-stemmed, suckering shrub, small edible nut late Aug
	Honeysuckle*	6-9 ft	Fair	Fair	Slender, spreading and arching branches; dull-colored foliage
	Indigo, False *	8-12 ft	Good	Poor	Native legume, grows well on moist soils
	Juneberry*	6-15 ft	Excellent	Fair	Suckering, white flowers, fruits are highly prized for food
	Lilac, Common	8-12 ft	Poor	Good	Stout, spreading branches; suckering, showy fragrant flowers
	Lilac, Villosa	6-10 ft	Poor	Fair	Non-suckering, lavender-pinkish flowers fade to gray-white
	Nannyberry*				
	Plum, American*	8-10 ft	Excellent	Good	Thorny, winter-hardy, edible fruit, susceptible to canker
	Rose, Hansen Hedge	4-6 ft	Excellent	Good	Showy pink flowers, rose hip fruit, thorny, suckering
	Seaberry	8-14 ft	Excellent	Good	Tolerant of dry soils, high PH and salinity
	Sumac, Skunkbrush*	3-8ft	Excellent	Fair	Spreading; forms dense mass of stems and leaves. scented leaves/yellow flowers
	Sumac, Smooth	5-15 ft	Excellent	Good	Suckers, outstanding red fall color, grows in masses
	Willow, Sandbar*	5-10 ft	Fair	Poor	Suckering, shrub native along riverbanks
	EVERGREENS				
	Cedar, Eastern Red	25 ft	Excellent	Excellent	Small tree, short trunk, irregular pyramidal crown, turns red in winter
	Juniper, Rocky Mountain*	15 ft	Excellent	Excellent	Dense pyramidal crown; silver-green foliage w/ blue berry-like cones
	Pine, Ponderosa*	55 ft	Fair	Good	Native confier w/ pyramidal shape becoming irregularly oblong
	Pine, Scotch	40 ft	Fair	Fair	Medium to large confier, similiar to Ponderosa Pine in shape
	Spruce, Black Hills	40 ft	Excellent	Good	Dark green foliage and conical form
	Spruce, Colorado Blue	60 ft	Excellent	Good	Native conifer w/ pyramidal shape becoming irregularly oblong

Tall Stock: (Tall stock not included in bulk discount)

The following trees also come in tall or 2'-4' and cost $4.00 each

	Green Ash
	Hybrid Polplar
	Silver Maple
	Bur Oak
	Siouland Cottonwood

The following trees also come in 1 gallon pots and cost $12

	Cedar, Eastern Red
	Juniper, Rocky Mountain
	Pine, Ponderosa
	Pine, Scotch
	Spruce, Black Hills
	Spruce, Colorado Blue

Tree Care and Maintenance Items:

	5' Tree Shelter with stake: $9.00
	Staples - $.20 each or $90 a box
	Fabric Roll - 500' ($150.00)or $60/100ft
	Tree Mats - $4 each
	Plantskydd pump sprayer @ $12.95

	Plantskydd quart spray bottle @ $21.95
	Plantskydd powder concentrate 1 lb box @ $29.95
	Plantskydd granular - 1 lb shaker @ $14.95
	Plantskydd liquid - 1.3 Gallons: @ $59.95
	Plantskydd Granular - 3 lb jug @ $26.95

Trees are listed on the back page: please turn over

Stutsman County Soil Conservation District
1301 Business Loop East, Jamestown ND 58401

NDSU Tree Handbook, with pictures:
https://www.ag.ndsu.edu/trees/handbook/ndhand-1.htm
https://www.ag.ndsu.edu/tree-selector

Quantity	Species	Height	Wildlife Value	Drought Tolerance	Description
	Apricot, Hardy	10-15 ft	Good	Fair	Fast-growing tree; attractive white flowers, edible fruit
	Ash, Green *	35-65 ft	Fair	Good	Hardy, native, drought & alkali reistant, med to large tree
	Aspen	40-50 ft	Fair	Fair	Fast growing, bright yellow fall foliage with white bark
	Birch, Paper	30-55 ft	Fair	Poor	Native medium, is loosely pyramidal when young, oval when mature
	Boxelder	30-36 ft	Good	Fair	Fast growing, short-lived, medium to tall tree of irregular form
	Buckeye, Ohio	20-40 ft	Fair	Poor	Medium size, candle-like flowers, large globular fruit
	Cherry, Black	25-50 ft	Good	Fair	Medium, single to multi-stemmed; leaves are shiny, long, & narrow
	Cherry, Pin	8-15ft	Good	Fair	White flowers in Spring
	Chokecherry, Schubert	12-15 ft	Excellent	Fair	Red-Purple leaves. Suckering, fruit for jams and jellies
	Cottonwood, Native *	60-90 ft	Fair	Fair	Largest and fastest growing tree in the state, produces cotton
	Cottonwood, Siouxland	60-70 ft	Fair	Fair	Large, vigorous, cottonless male tree, leaf rust resistance
	Crabapple, Midwest	15-25 ft	Good	Fair	Valued for their foliage, fruit, flowers, and wildlife benefits
	Crabapple, Red Splendor	20-30 ft	Excellent	Fair	Greenish-Purple to purple foliage, flower pink to white, red fruit
	Crabapple, Siberian	15-25 ft	Good	Fair	Valued for their foliage, fruit, flowers, and wildlife benefits
	Elm, Siberian	12-15 ft	Good	Good	small-medium, fast growing tree. Drought tolerant. Used in windbreaks
	Hackberry Northern *	40-60 ft	Excellent	Fair	Good replacement tree for elm; gray unique stucco-like bark
	Hawthorn*	15-30'	Good	Fair	Used in riparian buffers to help reduce stream bank erosion
	Honeylocust, Thornless				
	Linden, American	50-70 ft	Fair	Poor	Used as shade, boulevard, and park tree in open landscape areas
	Maple, Amur	15-20 ft	Fair	Fair	Susceptible to 2, 4-D injury, bright reddish fall colors
	Maple, Silver	40-65 ft	Fair	Poor	Prefers a moist soil, subject to limb breakage, also called soft maple
	Oak, Bur*	40-70 ft	Excellent	Good	Slow growing, long lived, produces acorns, spreading crown
	Olive, Russian	15-25 ft	Excellent	Good	Thorny, silvery leaf color, leaves retain late into fall
	Pear, Ussurian	15-30 ft	Good	Fair	White flowers, semi-glossy foliage, hardiest of all pears
	Poplar, Hybrid	70 ft	Poor	Poor	Selected for insect and disease resistance, growth and hardiness
	Walnut, Black	35-60 ft	Good	Poor	Large, borderline hardy tree; best if planted in protected areas
	Willow, Golden	40-55 ft	Fair	Poor	Large, spreading; young stems are bright yellow
	Willow, Laurelleaf	25-35 ft	Fair	Poor	Small to medium size, first to leaf out in spring. Highly glossy leaves
	Willow Peachleaf*	20-60 ft	Fair	Fair	Large tree, fast growing, short lived
	Willow, Sharpleaf	15-25 ft	Fair	Poor	Can be used for screen plantings if left multi-stemmed

* Native ND Species

FOR OFFICE USE ONLY

Conservation Grade @ $2.00= $_____

BUNDLES of 25 @ $45.00 (of the same species) = $_____

2-4' Bareroot @ $4.00= $_____

1 Gallon Containers @ $12.00= $_____

Fabric/ Other Products= $_____

Subtotal $_____

Tax Amount = _____ **Total Due** $_____

Check #_____ Cash_____Credit_____

PAYMENT DUE WHEN YOU PICK UP YOUR TREES

Due to the perishable nature of live plants, variablility in planting conditions and care by customer: Stutsman County SCD has NO GUARANTEE for survival and growth of any species. We do our best to provide you with a quality tree from the time we receive it from the nursery until you pick up the tree at the tree shed.

Name: _____

Address: _____

City: _____

Phone: _____

Date: _____

Farm: Yes_____ No_____

2023 Tree Order Form: Due November 15, 2022

SCSCD is an equal opportunity provider and employer.

USDA-NRCS is an equal opportunity provider, employer, and lender.

Stutsman County Soil Conservation District
1301 Business Loop East
Jamestown, ND 58401-5946

CHANGE SERVICE REQUESTED

All programs and services of the Stutsman County Soil Conservation District are offered on a non-discriminatory basis, without regard to race, color, national origin, religion, sex, age or handicap. In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

The District was formed to assist people in Stutsman County through the District Mission:

"To take available technical, financial, and educational resources, whatever their source, and focus or coordinate them so that they meet the needs of the local land user for conservation of soil, water, and related resources."

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Find us on the web at:
www.stutsmanscd.net

We are located in the USDA Service Center

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