#### Spring / Summer 2022

#### CUSTER COUNTY CONSERVATION DISTRICT



Custer County Conservation District was established on November 2, 1940.

# Special points of interest:

- Soil erosion
- Tree pest updates

### **Inside this issue:**

| Soil erosion                            | 2 |
|---|---|
| Tree pest updates                       | 3 |
| Apple tree pollination                  | 4 |
| Mountain Pine Beetle<br>Award           | 4 |
| SD Family Forests<br>Association Awards | 5 |
| Upcoming Events                         | 5 |

# Custer Conservation District Newsletter

# NRCS District Conservationist Updates

The Natural Resources Conservation Service (NRCS) office in Rapid City is experiencing a change at the District Conservationist (DC) position. The former DC, Justine Reid, has accepted another position out of state. The Board is thankful for Justine's support of the Custer Conservation District and wishes her the best in her new position. Currently, Samantha Ziph is serving as the Acting DC until early June. A new DC has been hired and is expected to begin working in June.



### **Arbor Day Activities**

The Custer County Conservation District celebrated Arbor Day by planting trees at the Hermosa and Custer Elementary Schools, giving away bareroot tree seedlings to 1st Grade students and by assisting with tree plantings at the City of Custer Dog Park.



Tree planting with students at Custer Elementary School (pictured upper left), bare-root tree seedlings given to 1st Grade students (above), City of Custer Dog Park celebration with tree plantings (lower left), tree planting with students at Hermosa Elementary School (below).





# **2022 Scholarship Award Winners**

Custer County Conservation District is pleased to award three \$500 scholarships to graduating seniors in 2022. Recipients were Jessica Woodward, Taylor Neugebauer, and Justin Doyle (pictured left to right below). Congratulations to these graduates!







### Page 2

### **Cover the Soil to Prevent Wind Erosion** by Valerie Riter, NRCS Agronomist

When the wind blows this fall or winter, is the topsoil going to stay on the field or leave in a dust storm? The number one reason it would leave is lack of cover or residue on the field. Tillage and overgrazing are primary causes for lack of residue. Drought has made these conditions worse as less plant material grew this year. The soil is dry, loose, and finely granulated due to drought. Without moisture to keep soil aggregates together, the wind detaches the soil and transports it across the field.

Wind erosion is the detachment and dispersal of topsoil by the wind, especially in dust storms. The topsoil is the most fertile part of the field as it is where the bulk of the fertility resides, especially in the organic matter. The organic matter contains nutrients such as nitrogen, phosphorus, and sulfur. Each percent of organic matter in a medium texture soil releases 10 -20 pounds of nitrogen, 1-2 pounds of phosphorus, and 0.4-0.8 pounds of sulfur per acre per year. Typical cropland soils in this area range from 1.5 -2 percent organic matter. A farmer can expect each year 15-40 pounds of nitrogen, 1.5-4 pounds of phosphorus, and 0.6-1.6 pounds of sulfur per acre to mineralize from the organic matter to become plant available. Fertilizer prices significantly increased over the past year. Based on current fall 2021 fertilizer prices, the soil

releases \$9-24 worth of nitrogen, \$1-2.80 worth of phosphorus, and \$0.30-0.80 worth of sulfur or \$10.30-27.60 of nutrients per acre per year. While these numbers may be small on an acre basis, they quickly amplify on the hundreds or thousands of farmed acres. These numbers don't account for the additional commercial fertilizer left in the soil after crop harvest. The topsoil leaving a field in a dust storm has organic matter, plant nutrients, and any residual herbicides/pesticides blowing into the field ditch or even further away. Repeated dust storms will remove all the topsoil so only the less fertile subsoil is left, which ultimately reduces production and profitability.

Keeping the soil covered is the best way to prevent the loss of

valuable topsoil. A fall cover crop is an excellent way to protect the soil during the winter or early spring months. These cover crops are predominantly winter cereal grains such as rye, triticale, or wheat. Cold tolerant brassica species, such as winter camelina, rapeseed, radishes, and turnips can be added to the mix to increase diversity. Due to the small size of brassica seeds, only 1-2 pounds are needed in the mix. Hairy vetch can be added to produce nitrogen and add diversity in the mix. However, hairy vetch can be hard to control so be diligent with chemical control. Alternatively, leaving standing residue in the field will also slow wind speed to reduce wind erosion. Cutting small grains higher or leaving

(Continued on page 3)



The main principles to manage for soil health: maximize living roots, diversity, and soil cover and minimize disturbance. Image from NRCS.

"The average soil loss in South

Dakota is 2.4

tons/acre per year."



# Spring / Summer 2022

#### Page 3

# **Tree Pest Updates -** from Dr. John Ball, Forestry Specialist and Forest Health Specialist, SDSU Extension and SD-Dept. Ag. & Nat. Resources

### <u>Pine engraver "Ips"</u> beetles

The adult beetles overwinter in trees, slash, and even the litter on the forest floor. Now that we are experiencing warmer day tem-



Ips pini beetle. Photo by Natasha Wright, Florida Department of Agriculture and Consumer Services, Bugwood.org

peratures in the southern Black Hills, 60s and 70s, these adults are flying to seek out new homes.

The preferred home is fresh slash, material that was piled this late winter and spring. The adults will burrow into this material and lay eggs. The eggs hatch within a week and the larvae will feed for about three weeks before pupating and emerging as adults. This next generation begins emerging in mid-June.

If there is more fresh slash in June, the new adults will attack this material. If there is no fresh slash, they will be attracted to nearby live trees. Usually, healthy trees are not susceptible to attack but pines stressed by drought are not healthy. *Taken from the April 28, 2021 Tree Pest Update. Article titled "Custer County, Pine engraver beetles".* 

# **Soil Erosion Prevention**

(Continued from page 2)

un-chopped residue rows will help deposit more snow in the field as well as nearly eliminate wind erosion. Planting tree and shrub shelterbelts on the north and west side of the field can also slow wind speeds. However, the distance of wind protection is often limited to 10 times the height of the tallest row, meaning the whole field may not be protected.

The average soil loss in South Dakota is 2.4 tons/ acre per year (University of Minnesota Extension). 5 tons of soil across an acre of land is equal to the thickness of a dime. At this rate, loss over

#### Emerald ash borer

While communities such as Sioux Falls have been receiving most of the attention about emerald ash borer, the insect has also been appearing in windbreaks in Lincoln and Minnehaha Counties. This is one windbreak (pictured right) of smaller diameter green where every ash is dead and beginning to fall over.

The dead trees are sprouting at their base. Every tree in the row has numerous sprouts coming up around the lower trunks; a few sprouts are already five feet tall. This means the ash will survive in these windbreaks but as a shrub row, rather than a tree row. The sprouts will reach about six to eight feet before they are infested and killed by the beetle. The decline and resprouting process will be repeated until the trees finally exhaust all the root reserves. *Taken from the April 6, 2022 Tree Pest Update. Article titled "Emerald ash borer beginning to kill windbreaks".* 





Emerald ash borer. Photos by U.S. Department of Agriculture, Animal and Plant Health Inspection Service.

10 years is a ½ inch of topsoil. While soils are considered a renewable resource, they form at an extremely slow rate. In fact, typical rates are 500 to 1,000 years to form 1 inch of topsoil in western SD. The 1 inch of topsoil formed over 1,000 years can be destroyed in just 20 years, if left exposed to wind erosion.

Keeping a living plant or standing crop residue in the field is the key to avoiding wind erosion. The topsoil and residue remain in the field to supply nutrients to subsequent crops. Elimination of wind erosion increases profits and prevents loss of productivity.



Declining green ash trees in windbreak due to emerald ash borer.

It is the mission of the Custer County Conservation District to promote conservation of soil, water, and natural resources for residents and visitors now and in the future.

# Custer Conservation District Newsletter

Page 4



**12** ft. no-till drill available to rent from Pennington CD.

# **No-till Drills for Rent**

Are you looking for a no-till drill to rent? Both Fall River and Pennington Conservation Districts have drills available to Custer County residents.

For more information about renting from the Pennington Conservation District, call 605-441-5046; for the Fall River Conservation District, call 605-745-5716 Ext. 121.

### Apple Tree Pollination by Dr. John Ball, SDSU Ext. / SD-DANR

trees are becoming a popular choice. The objective of planting fruit is to harvest it, and that means pollination is required. Here are the pollination requirements for the common apple trees.

Apple trees require pollen transfer between two different cultivars; a Sweet Sixteen and a Zestar! for example. Since there is no botanical difference between an apple and a crabapple, an apple and crabapple can pollinate one another, and no, having a crabapple for a pollinator will not make the apple taste "crabby".

Spring means planting and fruit

There are a few considerations



to keep in mind when choosing cultivars. First, it is best to have the two cultivars flowering at the same time. There is quite an overlap in bloom periods but to be sure it is best to plant earlyseason cultivars with each other or mix with mid-season but not early and late fruiting cultivars. The bloom periods might not match. For example, Haralson, a late-season apple, is not an acceptable pollinator choice for Zestar!, an early season apple.

Honeycrisp is not a great pollinator choice for any apple tree. While Honeycrisp is an excellent apple – crisp, sweet, and juicy, yum! – it is not the best pollen source. I recommend planting three cultivars if Honeycrisp is one of the choices so you will have fruit on all trees. If you just have a Honeycrisp and another apple, you might see good fruit set on the Honeycrisp but poor on the other apple cultivar.

Finally, some apple cultivars are too closely related to pollinate one another. Haralson and Haralred are too close as well as Fireside and Connell Red. We also have a few apple trees such as the Dolgo crabapple, a great cider apple from South Dakota, which may sometimes be selffruitful.

(Continued on page 5)

### Mountain Pine Beetle Work Recognized

Dave Thom (pictured left), Chair of the Conservation Board of Supervisors, received a belated award for his efforts as Coordinator of the Black Hills Regional Mountain Pine Beetle Working Group. Dave served as coordinator for the group from 2012 to 2018. The Working Group was a collaboration among local, State, and Federal agencies that were responsible for creating the annual Mountain Pine Beetle Action Plan and coordinating specific agency and private activities to manage Mountain Pine Beetle populations.

"Apple trees require pollen transfer between two different cultivars."

# Spring / Summer 2022

### Page 5

### South Dakota Family Forest Association Awards in 2021

Oonagh Wood, a member of Custer County's Conservation Board of Supervisors, was honored by the South Dakota Family Forests Association (SDFFA) as 2021 Tree Farmer of the Year. Oonagh was recognized for her timber management practices on her property.

Matt Walsh, Forester with the South Dakota Department of Agriculture and Natural Resources, was awarded the 2021 Tree Farm Inspector of the Year by SDFFA. Matt was selected for his work with private landowners, the Custer and Fall River Conservation Districts, and USDA Natural Resources Conservation Service (NRCS).

Unfortunately, Matt has accepted another position and is no longer able to partner with the Conservation District on forest-

related issues. The Board is very appreciative of his support for the District and private landowners and wishes him the best in his new position.

# **Calendar of Events**

- June 5-11–SDWF Youth Conservation Camp at Camp Bob Marshall in the Black Hills, SD, Contact Bob Schaeffer @ 605-380-0125.
- June 9–Custer Conservation District Board meeting.
- June 14-15–Rangeland and Soil Days Murdo, SD Contact Emily Helms @ 605-570-2180 or email jonescd@sdconservation.net.
- June 21-23–West River Grazing School Wall, SD Contact 650-280-0127or visit SDGrass.org for more information.
- July 1–Petitions due to Courthouse for Board Supervisor elections this fall.
- July 14–Custer Conservation District Board meeting.

# **Share Your Email**

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Matt Walsh, left, and Oonagh Wood, right, were 2021 award recipients by

the South Dakota Family Forests Asso-

# **Apple Tree Pollination**

(Continued from page 4)

Some conservation districts are offering the following apples for sale this spring. I have included when the fruit ripens on each cultivar. The best pollination is either having the two cultivars within the same ripening season (early, mid, late) though mid-season will be acceptable for either an early or a late season apple.

Fireside – Late season; Honeycrisp – Mid/late-season; Honeygold – Late season; Red Baron – Mid-season; Regent – Late season; State Fair – Early season; Zestar! – Early season

Another tree being offered is Hat Trick which has branches that are either Honeycrisp, Zestar! or Sweet Sixteen so only one tree is needed for pollination.

John Ball is a SDSU Extension Forestry Specialist and SD-DANR Forest Health Specialist. Article taken from the April 6, 2022 Tree Pest Alert.





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# **Newsletter of the Custer County Conservation District**

# **District Board**

Dave Thom - Chair Paul Nettinga - Vice-Chair Oonagh Wood - Treasurer Tamarah Caster - Supervisor Greg Neugebauer - Supervisor Advisors: Stuart Adrian, Stephenie Rittberger, and Gladwin Paulsen Mike Baldwin - District Manager Mike Linde - County Commissioner Liaison

# **NRCS Staff**

Samantha Ziph - Acting District Conservationist Justin Boerboom - Resource Unit Conservationist

### Partners

Patricia Weyrich - Acting Forester, SD DANR-RCF Faryn Klebe - National Wild Turkey Federation

The mission of the Custer County Conservation District is to promote conservation of soil, water, and natural resources for residents and visitors now and in the future.



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