

LIBERTY COUNTY NEWS

jointventure

M.S.U. Extension
Office—Chester, MT

Liberty County
Conservation District

June 2024

Montana State University Extension and Liberty County Conservation District are collaborating this newsletter. We will keep you informed on news and events in both offices. As agriculture is a major focus for both offices, we have events that often coincide. Please let us know if you have information on upcoming events and happenings.

Upcoming Events

- 406 Grazing Academy Workshop | June 11-13, 2024 | Miles City, MT
- Range Days | June 24-26, 2024 | Miles City, MT
- Montana Range Tour | June 20, 2024 | Lewistown, MT
- Marias County Fair | July 17-20, 2024 | Shelby MT
- Hi-Line Harvest Festival ~ September 20-21, 2024

THE LIBERTY COUNTY CONSERVATION DISTRICT

Board of Supervisors: Lanny Jones, Rodney Oraw, Tyler Streit, Michael Nelson, Megan Hedges, Tyler Jones, Kurt Matkin

Associate Supervisors: Robert Pugsley, Rodney Svenson, Ray Morkrid, Geoff Osterman

Administrator: Diane Roberts

THE NATURAL RESOURCE CONSERVATION SERVICE

District Conservationist: Misty Vermulm

Technician: Dan Kultgen

Soil Conservationist: Dan Hodges

Resource Soil Scientist: Matti Osterman

Pheasants Forever: vacancy

Liberty County Conservation District

18 Main Street
USDA Building

406-759-5128 ext. 102

Email:
libertycountycd@gmail.com

Website:
libertycountycd.macdnet.org

LCCD holds monthly board meetings on the third Thursday of each month. The meetings begin at 7:00 p.m. in the USDA conference room. Any member of the public is welcome to join.

MSU Extension

111 1st Street E
Liberty County
Courthouse

406-759-5625

**Liberty County
Extension Agent:**

-Jesse Fulbright

**Extension
Administrative
Assistant:**

-Julie Gagnon

liberty@montana.edu



The Montana Envirothon was held in Great Falls, MT April 21-22, 2024

Fourteen teams from across the state competed vying for first place and the opportunity to represent Montana nationally in Syracuse, New York this summer. This year's theme was on "Renewable Energy for a Sustainable Future" and on-site instruction was provided at Ryan Dam, a hydroelectric dam on the Missouri River, 10 miles downstream of the city of Great Falls.

Congratulations to Hamilton High School Team #4 on securing the win in this year's competition!





Pythium and cold damage issues on winter wheat and pulses

The Schutter diagnostic lab has recently received plant samples with symptoms of frost damage. Cold injury is often found on crops in low-lying areas where cold air presides, and damage is often sporadic in the field. Severity of the symptoms depends on the duration and intensity of the cold snap and the crop growth stage. Cold soil also interferes with the uptake of nutrients by plants, which can lead to nitrogen, iron, and zinc deficiency. Cold and wet soils are also prime conditions for Pythium root rot.

Cold damage in wheat: When temperatures dip in the spring, wheat leaves may show injury as yellow tips and dying tissue (Fig. 1). Stems may also split, interrupting plant water and nutrient uptake. Symptoms can be bleached areas or a water-soaked appearance. This can lead to lodging and plant collapse. Wheat spikes may die off, initially indicated by leaf yellowing in the whorl. Yellowing will increase if the culm declines. In spring wheat, color banding (yellow, white, brown, purple bands) can be apparent when temperatures fluctuate from day to night.



Figure 1. Wheat with yellowing, Photo: Mary Burrows

Pythium damage in wheat: Pythium species are soilborne and can degrade plant seeds prior to emergence or infect root tissue. Cold and wet spring weather in fields with high residue levels are ideal conditions for Pythium infection. Symptoms are often sporadic and worse in low-lying areas (where moisture gathers). Pythium symptoms include poor stand, yellow seedlings, reduced tillers, stunted roots, brown roots, minimal root hairs, or a lack of lateral roots (Fig.2).

Cold damage in pulse crops: Cold injury of dry pea, lentil, and chickpea often shows up as leaf damage, which initially appears water-soaked then becomes brown, found predominantly in the interveinal tissue. Necrotic plant tissue may be confined to a single node / growing point. Chickpeas are quite affected by frost, with leaves on the top of plants turning yellow or white and looking dry. This damage can be concentrated in the leaf margins.

Pythium damage in pulse crops: Pulse crops affected by Pythium in the soil will appear stunted, with light brown roots, show poor vigor, and secondary roots may be pinched off. Seed may also decay, leading to poor crop establishment.

To submit a sample, please visit the [Schutter Diagnostic Lab](#) site, Ph: 406-994-5150



Figure 2: Wheat field with Pythium issues. Photo: Mary Burrows.



Grasshopper Management

Every fall, the USDA-APHIS publishes a grasshopper hazard map. This map, released in October of 2023, highlights Montana's severe risk of intensive outbreaks this season. Thus, it is important to be prepared.

Grasshoppers of Montana:

Grasshoppers emerge as nymphs from May until early July, so it is important to scout this month. There are approximately 400 species of grasshoppers in Montana, with thirteen species being economically damaging. Examples of commonly occurring economically damaging species include: migratory grasshopper (*Melanoplus sanguinipes*), clear winged grasshopper (*Camnula pellucida*), and whitewiskered grasshopper (*Ageneotettix deorum*). The majority of the 400 species overwinter as eggs within the top inch of soil. Some species of grasshoppers, like the speckle-winged grasshopper (*Arphia conspersa*), overwinter as adults and are not economically damaging insect pest species. The species of pest concern for Montana overwinter as eggs, so if you are already seeing grasshoppers with fully formed wings in the spring, they are most likely not economically damaging species.

Scouting and Economic Thresholds:

Within the nymphal life stage, grasshopper species are difficult to identify. Scouting does not distinguish between species, but identifies life stages (e.g., nymph or adult) and location. Generally, grasshopper populations are higher outside of the field. So scouting methods are slightly different between the edge habitat and within the field. Scouting within the edge habitat is done by walking several feet towards a randomly selected one square foot area, while counting the number of grasshoppers that jump into or out of the one square foot area. Repeat this 18 times and divide the generated value by two. That value will be the number of grasshoppers per square yard (i.e., 9 square feet). The general economic threshold within the field margin is 50 to 75 nymphs per square yard, or 21 to 40 adults per square yard (**Table 1**). Nymphs can generally be distinguished from adults as they are smaller in size and lack fully formed wings.

As populations are lower within the field, scouting is done by walking several feet towards a randomly selected one square yard area. As you walk towards the area, count the number of grasshoppers that jump into or out of the space. Repeat this 18 times and average the recorded values. This will generate the average number of grasshoppers per square yard. The general economic threshold within the field is 30 to 45 nymphs per square yard, or 8 to 14 adults per square yard (**Table 1**).

Table 1. Grasshopper densities per square yard and their associated severity rating. Ranging from low to very severe densities for nymphs and adults. These economic thresholds are general and are not crop specific.

Table Reference: North Dakota State University Extension,

Severity Rating	Nymphs - per square yard		Adults - per square yard	
	Margin	Field	Margin	Field
Low	25-35	15-25	10-20	3-7
Threatening i.e., Economic Threshold	50-75	30-45	21-40	8-14
Severe	100-150	60-90	41-80	15-28
Very Severe	>200	>120	>80	>28

Control Options:

Biological, chemical, cultural, and mechanical control options are effective at various points of the year. Biological control agents include species of bacteria, fungi, microsporidia, nematodes, predators, and viruses. One can amplify the presence of biocontrol fungi, *Nosema locusta*, by using Nolo Bait (ARBICO Organics) in their gardens. However, this product is not recommended for large scale applications, and is currently out of stock. Chemical control includes Asana XL, Dimilin, Fyfanon, Lumivia CPL, Mustang Maxx, Orthene, Pyganic, Sevin, and Warrior II. Dimilin is a highly effective early season control tactic in range and pasture, with a low impact on beneficial insects. Asana XL and Warrior II, are labeled for grasshopper management for both range and pasture and field crops, meaning that their label is more versatile. Please review the chemical label prior to purchasing and/or use of the product. Cultural control includes early planting, crop rotations, and grazing rotations. Mechanical control includes tillage in the early spring and fall. Although tillage reduces soil moisture, it is a source of egg mortality. Unfortunately, there is no economic threshold established to determine if tillage is needed.

CJI AG IN THE CLASS 2024

The CJI Ag in the class was held on May 16th, 2024 for the 3rd and 4th grades. MSU Extension, NRCS, Farmers Union and LCCD, hosted a range of topics.

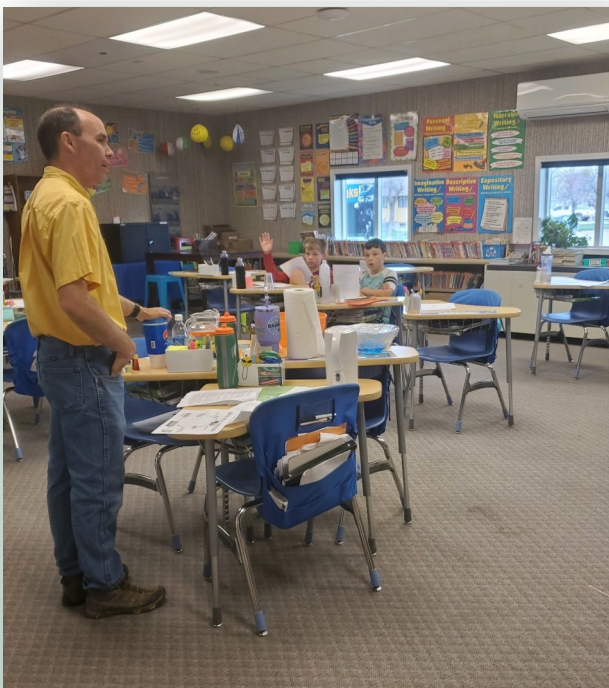
Tree planting was lead by **Dan Kultgen, NRCS**, and **Diane Roberts, LCCD**, with **Hannah Kultgen** assisting in the Outdoor classroom. How Arbor Day began, the importance of trees in our environment, why we plant shelter belts, and how to properly plant a shelter belt were topics covered. Thank you to LCCD for donating 48 Ponderosa Pine to the students and for the outdoor classroom at CJI.



Matti Osterman, NRCS, demonstrated the “**Apple is the Earth**” to show the fraction of the earth that is left to grow the food and fiber needed for our growing population. The students also assisted with the slake test demonstration highlighting the importance of good soil aggregation achieved through minimal soil disturbance (no-till). The students also witnessed the tabletop rainfall simulator and learned about the importance of keeping the soil covered to reduce runoff and soil erosion. The session was ended with dirt dessert cups.



Jesse Fulbright from MSU Extension conducted several science experiments with the students. He taught about water cycles, point and non-point pollution and how to prevent ground contamination.



*How to identify wildlife and their habitat was covered by **Dan Hodges, NRCS.***



Jodi Koterba, education associate, Montana Farmers Union, conducted invasive species education programs as part of the Chester Ag In the Classroom Day. Students played games to see the effects of Invasive species on native species and how they spread. Students became Weed Warriors equipped with ways to stop the spread and eradicate the existing problems."

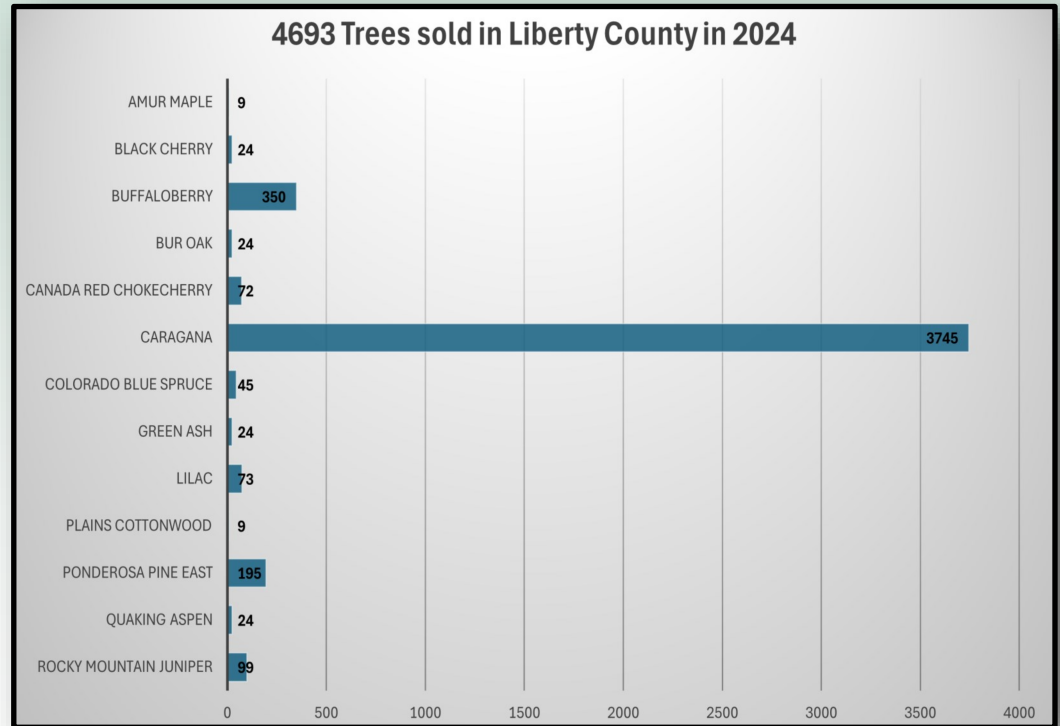


*Thank you to Mrs. Romain and Ms. Tempel for helping to facilitate this workshop.
It was a fun day for everyone.*

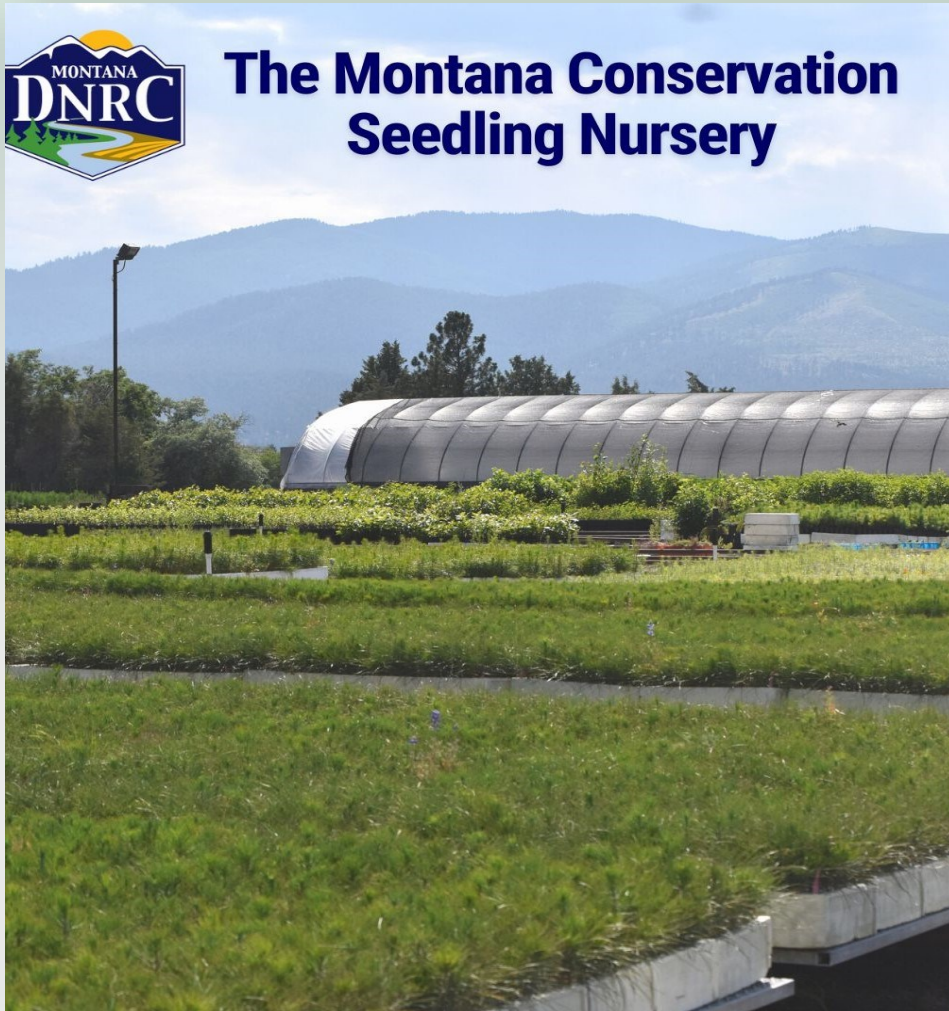
Tree Sales for Liberty County

As many of you know the Liberty County Conservation District has had tree sales going on since September of 2023. LCCD sold 4693 trees this year for planting. The graph shows the percentage of what tree were ordered from the total amount that were sold. It was interesting to see the trees that were highly ordered over others. Many trees were ordered for the sole purpose of windbreaks with Caragana being the highest percentage.

Montana Seedling Nursery will begin to take tree orders on **September 18, 2024** for delivery spring of 2025. They sell out fairly quick so plan on getting your orders in early.



PLANNING ON PLANTING TREES NEXT SPRING?



The Montana Conservation Seedling Nursery

MARK YOUR CALENDAR!

The Annual Seedling Sale Begins

**Monday,
September 18, 2023
6:00 a.m.**

SEPTEMBER

SUN	MON	TUE	WED	THU	FRI	SAT
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

The Liberty County Conservation District will start taking tree orders in September for **Montana Seedling Nursery and Lincoln Oaks**.

To order for spring 2025:

- ♦ Visit Liberty County Conservation District office at 18 Main Street in Chester OR phone 406-759-5778 ext. 102 OR email, libertycountycd@gmail.com
- ♦ OR go online to : <https://dnrc.mt.gov/Forestry/Conservation-Nursery>, to place your orders direct.

Plan to reserve your tree orders and avoid shortages. Tree's will be delivered free of charge to the USDA building in Chester late April.

CoCoRaHS April 2024 precipitation report



Near normal Precipitation during April in Liberty County

The average precipitation for April 2024 across Liberty County was near normal at 0.95 inch, but was much higher than April of last year, which averaged only 1/3 of an inch. Temperatures were above normal.

The southeast half of Liberty County generally had above normal precipitation with the most 1.58 inch at the Cole Farm on the Marias River. Around the Sweetgrass Hills, Engstroms and Wolerys had less than half of their normal April precipitation. Measurable rain or snow occurred on 6 to 7 days during April.

For the water year, which began in October, the county-wide average precipitation stands at 4.68 inches, which is 30 percent higher than the normal of 3.61 inches. At the end of April, the drought rating across Liberty County remained at “abnormally dry.”

Soil moisture at the USDA site southeast of Lothair was at 24 percent in the first 8 inches, compared to 27 percent last year. Subsoil moisture in the 20 to 40 inch depths averaged only 5 percent compared to 7 percent last year. The Army Corps of Engineers site southwest of Chester had topsoil moisture at 21 percent and subsoil moisture at 23 percent.

The warmest temperature recorded was 76 degrees on the 24th at both the Henke farm southeast of Chester and the Pugsley Ranch on the Marias River. The coldest was 9 degrees on the 20th at the Fritz ranch northeast of Lothair. Heating degree days, a measure of heating needs was 597 for the month. This was 20 percent below normal and 4 percent less than last year.

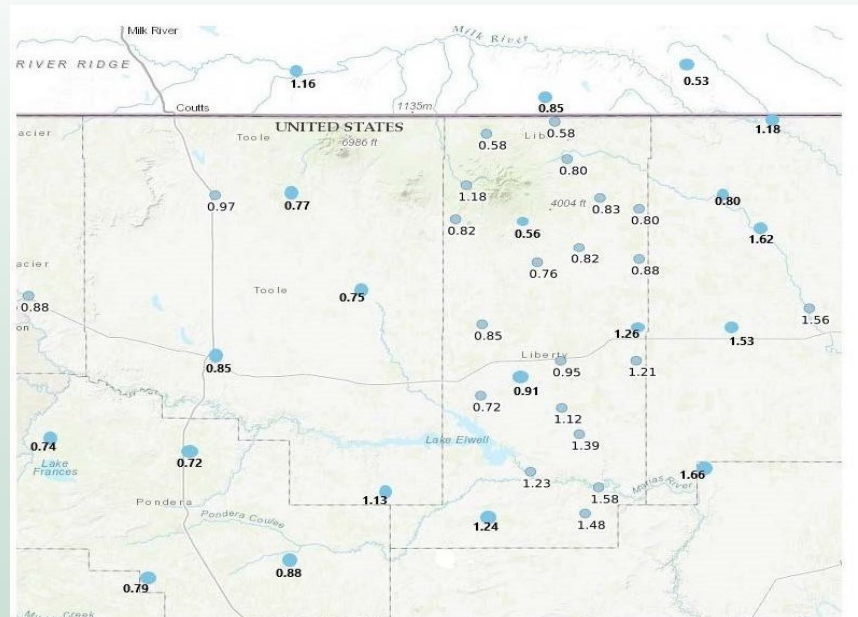
Most farms recorded wind gusts over 40 mph on April 30th. The strongest reported was 66 mph at the Streit Farm south of Tiber. Average wind speeds during April were near normal to a little higher than normal and ranged between 9 and 11 mph at the Courthouse, USDA site near Lothair, and the Jeff Mattson farm north of Chester. The Air Quality Index for the month had all days average in the good category.

During April, Tiber Reservoir rose 1.4 feet and was about 0.7 foot below normal. At the end of the month, the reservoir was 79 percent full which was 1.4 percent below normal for this time of year. The average inflow for the month was 82 percent of normal. The remaining mountain snowpack to melt in the Marias Basin is only 40 percent of normal.

NOAA's May outlook is calling for temperatures to average near normal with near the usual precipitation. During May, temperatures normally rise 9 degrees from the beginning to end of the month. Most farms will likely have the last freeze during mid to late May. May precipitation is usually between 1.50 and 2 inches, except 2 to 2.50 inches on the west and north sides of the Sweetgrass Hills.

CoCoRaHS stands for the Community Collaborative Rain Hail Snow network, comprising over 20,000 active rain gauge volunteers in all 50 states, Canada, the Caribbean, and Guam. More information about CoCoRaHS is available at cocoahs.org or by calling the Liberty County CoCoRaHS Coordinator at 406-962-8870 or emailing dennish@agweathermedia.com

STATION	APR	NORM	PCT
Tiber Dam 11ESE Cole	1.58	0.99	160
Chester 11S Osterman	1.39	0.78	178
Joplin Snyder	1.26	0.82	154
Tiber Dam 7.6S Buffington	1.24	1.04	119
Tiber Dam 3SE Pugsley	1.23	0.91	135
Joplin 4S Dahinden	1.21	0.69	175
Whitlash 4SE Thompson	1.18	1.54	77
Chester 7S Harmon	1.12	0.74	151
Chester B. Kammerzell	0.95	0.70	136
Chester 5SW-K.Kammerzell	0.91	0.98	93
Joplin 11N May	0.88	0.74	119
Tiber 7NW Fenger	0.85	0.82	104
Tiber Dam 12SE Skierka	0.83	0.90	92
Sage Cr Col 8SE Tempel	0.83	1.06	78
Whitlash 8S Wickum	0.82	1.11	74
Chester 16N Mattson	0.82	0.81	101
Joplin 18N Wood	0.80	0.73	110
Sage Cr Col 1SE Woods	0.80	1.00	80
Chester 14N Hendrickson	0.76	0.81	94
Lothair 3SE Violet	0.72	0.80	90
Sage Cr Col 4N Lybeck	0.58	0.97	60
Whitlash 6NE Engstrom	0.58	1.37	42
Hill 4E Wolery	0.56	1.34	42
AVERAGE	0.95	0.94	101



CoCoRaHS May 2024 precipitation report



Wetter and Windier than Normal during May in Liberty County

The average May precipitation for the 22 CoCoRaHS and government stations across Liberty County was 2.61 inches or 47 percent above the normal of 1.77 inches. Temperatures averaged 1 to 3 degrees below normal.

Heaviest precipitation was measured around the Sweetgrass Hills with 4 to 6 inches. The area from Chester to Joplin had the least amount of rainfall at between 1 and 1.25 inch, which was 30 percent below normal. Measurable rain or snow occurred on an average of 14 days, well above the normal of 7 to 9 days.

For the water year, which began in October, the county-wide average precipitation stands at 7.29 inches, which is 36 percent higher than the normal of 5.38 inches. At the end of May, the drought monitor had no drought rating across Liberty County.

Soil moisture at the USDA site southeast of Lothair was at 24 percent in the first 8 inches, compared to 21 percent last year. Subsoil moisture in the 20 and 40 inch depths averaged only 7 percent compared to 9 percent last year. The Army Corps of Engineers (ACE) site southwest of Chester had topsoil and subsoil moisture at 24 percent.

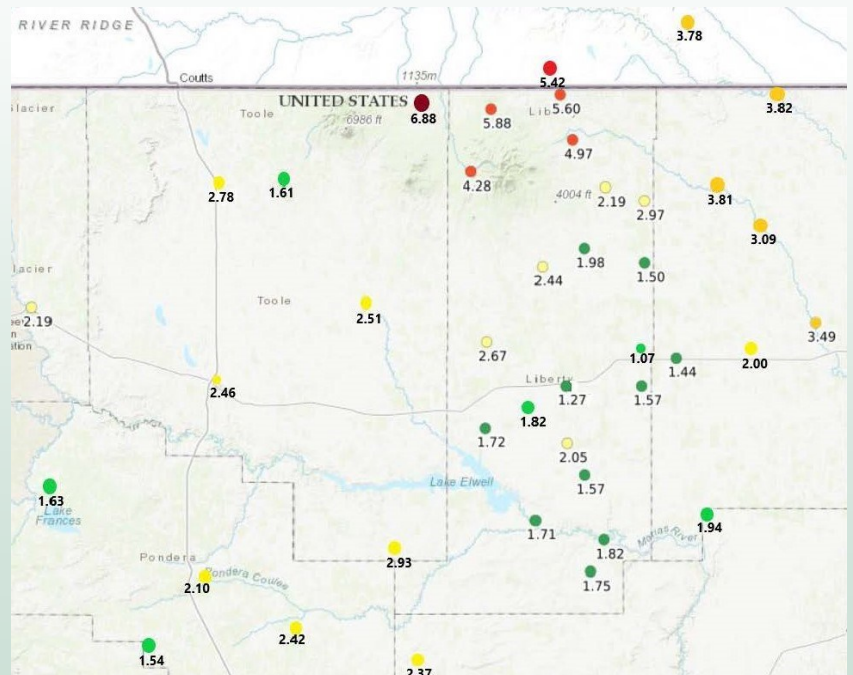
Most farms recorded wind gusts over 50 mph on May 7th with scattered damage. The strongest reported was 89 mph at the Hadford Farm northeast of Chester. Average wind speeds during May were higher than normal and ranged between 9 and 11 mph at the Courthouse, USDA site near Lothair, and the Jeff Mattson farm north of Chester. On May 12th, smoke from fires in northwest Alberta flowed into Liberty County and pushed the Air Quality index into the unhealthy category for one day.

During May, Tiber Reservoir rose 3.4 feet and was about 2.3 feet below normal. At the end of the month, the reservoir was 85 full compared to 79 percent in April. The average inflow to the reservoir for the month was 59 percent of normal, while the average discharge was 47 percent of normal.

NOAA's June outlook is calling for temperatures to average above normal with less rainfall than usual. During June, temperatures normally rise 5 to 7 degrees from the beginning to end of the month. June is normally the wettest month, but likely not this year. Normal rainfall is between 2.25 and 2.75 inches, except 3 to 3.50 inches around the north and west side of the Sweetgrass Hills. There are usually 9 to 11 days with measurable rain, but may be less this year.

CoCoRaHS stands for the **Community Collaborative Rain Hail Snow** network, comprising over 20,000 active rain gauge volunteers in all 50 states, Canada, the Caribbean, and Guam. More information about CoCoRaHS is available at cocorahs.org or by calling the Liberty County CoCoRaHS Coordinator at 406-759-9157 or emailing dennish@agweathermedia.com

STATION	APR	NORM	PCT
Whitlash 6NE Engstrom	5.88	2.18	270
Sage Cr Col 4N Lybeck	5.60	1.72	326
Sage re Col 1SE Woods	4.97	1.72	289
Whitlash 8S Wickum	4.37	2.14	204
Whitlash 4SE Thompson	4.28	2.51	171
Joplin 18N Wood	2.97	1.79	166
Tiber 7NW Fenger	2.67	1.80	148
Chester 14N Hendrickson	2.44	1.82	134
Tiber Dam 2 NNW Streit	2.31	1.47	157
Sage Cr Col 8SE Tempel	2.19	1.75	125
Chester 7S Harmon	2.05	1.68	122
Chester 16N Mattson	1.98	1.82	109
Tiber Dam 11ESE Cole	1.82	1.58	115
Chester 5SW-K. Kammerzell	1.82	1.67	109
Tiber Dam 12SE Skierka	1.75	1.68	104
Tiber Dam 3SE Pugsley	1.71	1.43	120
Lothair 3SE Violet	1.70	1.67	102
Chester 11S Osterman	1.57	1.61	98
Joplin 4S Dahinden	1.57	1.75	90
Joplin 11N May	1.50	1.78	84
Chester B. Kammerzell	1.27	1.76	72
Joplin Snyder	1.07	1.59	67
AVERAGE	2.61	1.77	147



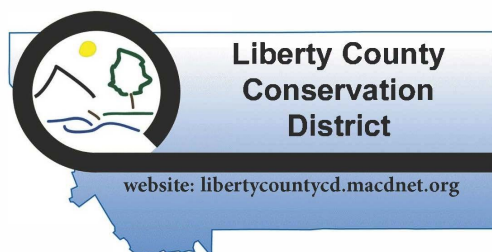


Liberty County Conservation District Website

The Liberty County Conservation District is excited to announce a new website. This website will give people knowledge of the conservation district and what we can do for you. It includes **monthly meeting minutes**, information about **310 permits** with an online platform for applying for a permit. A new **LCCD Cost Share Program** with instructions and a fillable PDF application and Land Management Plan. Past and present **Newsletters**. Pictures of the current board of Supervisors and contact information. There will be more information added as time goes on.

Below is the link and we hope you will check out the website.

libertycountycd.macdnet.org



Did you know that the LCCD has a new Cost Share Program!

Liberty County CD will consider funding projects up to a maximum amount of \$2500 under the following categories. (Please see the cost share instructions document for a more complete list of eligible projects):

- ◆ Stream/Riparian/Irrigation projects
- ◆ Weed Management projects
- ◆ Pasture projects
- ◆ Urban Natural Resources projects
- ◆ Tree projects

The Cost Share Instructions on the website have a more complete list of eligible projects.

Applicants must reside within Liberty County CD's jurisdictional boundary. Applicants are accepted on a rolling basis and must be submitted to the LCCD Board of Supervisors to be approved.

All questions about Liberty County Conservation District's Cost Share Programs can be directed to Diane Roberts via email (libertycountycd@gmail.com) or phone (406-759-5778 ext.102). Applications and information can be downloaded from the LCCD website at libertycountycd.macdnet.org

STEAK WITH CHIPOLTE– LIME CHIMICHURRI

Ingredients

- 2 cups fresh parsley leaves
- 1-1/2 cups fresh cilantro leaves
- 1/2 medium red onion, coarsely chopped
- 1 to 2 chipotle peppers in adobo sauce
- 5 garlic cloves, sliced
- 1/2 cup olive oil
- 1/4 cup white wine vinegar
- 1 teaspoon grated lime zest
- 1/4 cup lime juice
- 3 teaspoons dried oregano
- 1-1/4 teaspoons salt, divided
- 3/4 teaspoon pepper, divided
- 2 pounds beef flat iron steaks or 2 beef top sirloin steaks (1 pound each)



Directions

- For chimichurri, place the first 5 ingredients in a food processor; pulse until finely chopped. Add oil, vinegar, lime zest, lime juice, oregano, 1/2 teaspoon salt and 1/4 teaspoon pepper; process until blended. Transfer to a bowl; refrigerate, covered, until serving.
- Sprinkle steaks with the remaining salt and pepper. Grill, covered, over medium heat 5-8 minutes on each side or until meat reaches desired doneness (for medium-rare, a thermometer should read 135°; medium, 140°; medium-well, 145°). Let stand 5 minutes before slicing. Serve with chimichurri.

