

# LIBERTY COUNTY NEWS

## jointventure

M.S.U. Extension  
Office—Chester, MT

Liberty County  
Conservation District

September 2023

Montana State University Extension, 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

- LCCD Board Meeting ~ September 21 @ 7:00 p.m.
- Hi-Line Harvest Festival ~ September 23, 2023  
Chester, MT
- MACD Convention ~ November 14-16, 2023  
Billings MT

### 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 Conservationists:** Zach Williams, Dan Hodges

**Pheasants Forever:** Maverick Cady

### 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

# It's time to order trees for 2024 spring planting. Montana State Seedling Nursery

<https://dnrc.mt.gov/Forestry/Conservation-Nursery/order-form>



Orders for trees for the 2023 year have been completed. 4435 trees/shrubs were planted in Liberty County including caragana, rocky mountain juniper, aspen, douglas fir, ponderosa pine, blue spruce, buffalo berry, American plum, bur oak, englemann spruce, plains cottonwood, and Norway spruce. Most trees were purchased from the Montana State Seedling Nursery in Missoula. These conservation grade trees are sold in bundles of 50 for the bare root, and smaller quantities for the container size. In recent years, due to the high demand, the supply of trees at the state nursery is totally depleted by November. The district has a few other private sources with very limited supplies at this point.

**Producers are encouraged to place orders for 2024 planting this fall, starting September 18 through November, as the stock is sold out very quickly.** This is the best way to be assured of getting the variety, size or amount desired. Orders can be cancelled if the need arises.

To further assist with tree plantings, the Conservation District has a tree planter available for rent at a rate of \$50/day with a \$50 deposit. Tree fabric is also sold in 6x300 ft rolls and 6x500 ft rolls. We invite you to come into the office to talk about plans for tree planting!

***Diane Roberts***

Administrator, LCCD

## CONSERVATION SEEDLING NURSERY

2705 Spurgin Road

Missoula, MT 59804

406-542-4244

email: mtnursery@mt.gov

**Website:** [dnrc.mt.gov/divisions/forestry/forestry-assistance/conservation-seedling-nursery/nursery-catalog](https://dnrc.mt.gov/divisions/forestry/forestry-assistance/conservation-seedling-nursery/nursery-catalog)

## Shipping Options:

•**Delivered:** The nursery truck will deliver seedlings on a specific date in late April or early May 2023 to the Conservation District Office free of shipping charge.

•**Pickup:** Pickup your seedlings at the nursery located at 2823 Spurgin Rd., Missoula.

•**Shipped:** Ship your seedlings by FEDEX for a 19% shipping charge to your home.



# Natural Resources Conservation Service

U.S. DEPARTMENT OF AGRICULTURE

## NRCS has several options for financial assistance to improve resource concerns on your operation.

- The Conservation Stewardship Program (CSP) helps you build on your existing conservation efforts while strengthening your operation. We can help you identify natural resource problems in your operation and provide technical and financial assistance to solve those problems or attain higher stewardship levels in an environmentally beneficial and cost-effective manner.
- The Environmental Quality Incentives Program (EQIP) is the agency's most commonly used program to address private lands conservation needs. In Montana, NRCS uses a **"Focused Conservation"** strategy to guide its EQIP investments. For 2022-2024 the current focus is the **Liberty County Soil Health Targeted Implementation Plan (TIP)**, which offers assistance on up to 640 acres of cropland to eliminate fallow, seed with a disc drill, harvest small grains with a stripper header, diversify your crop rotation, and track progress through soil health soil tests over 5 years.

Applications are accepted on a continual basis. However, NRCS establishes application ranking dates for evaluation, ranking and approval of eligible applications. Applications received after the ranking date will be automatically deferred to the next funding period. NRCS in Montana is accepting applications through **October 27, 2023**, for the 2023 funding cycle.

**Zachariah Williams**

*Soil Conservationist*

*Zachariah.williams2@usda.gov*

# *Wheat Streak Mosaic Virus and the Green Bridge*

As fall seeding is underway, I wanted to issue a timely precaution this week about the “**green bridge.**” This green bridge is one familiar to many growers and can lead to diseases issues, specifically wheat streak mosaic virus, if all green tissue isn’t completely dead when fall seeding.

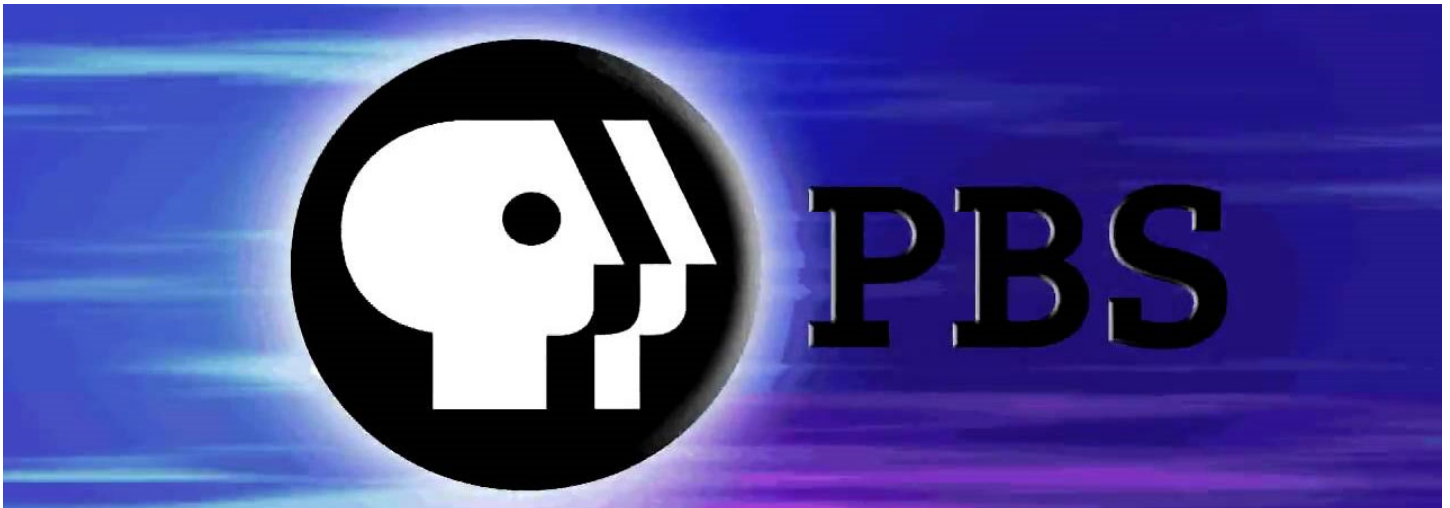
What is wheat streak mosaic? Wheat streak mosaic is a virus disease that affect small grain crops, such as winter wheat and spring wheat, but also barley, durum, oats, corn, and others. Symptoms of the disease include yellow streaking and mottling which affect the entire plant. Plants that become infected at early growth stages (before jointing) are typically stunted and their tillers sprawl out rather than growing erect. Yield loss from wheat streak mosaic can range from insignificant to 100%. Early infection typically results in more severe yield losses and wheat heads may be sterile.

The green bridge I mentioned plays an important role in the wheat streak mosaic disease cycle, because it supports wheat curl mite and virus survival between crops. The green bridge describes the presence of green plant material between harvesting of one crop and planting of the next. When an infected crop matures and dries down, the mites carrying the viruses disperse in the area seeking green bridge hosts for “over summering.” The best green bridge hosts that support high mite populations and virus replication are volunteer wheat, corn, and to a lesser extent cheatgrass.

Green bridge management is the most effective strategy to reduce wheat streak mosaic risk and is a good best management practice in all areas, particularly those hit by hail after mid-milk growth stage in cereals which would have promoted volunteer emergence. When choosing a termination method, consider the time to plant death. Mites can survive on a host plant for as long as there is green tissue present. Glyphosate kills slowly and can take up to 2 weeks. Glyphosate-treated wheat plants can be a source of dispersing the mites for up to two weeks post-application. Paraquat acts more quickly and reduces mite survival time to a few days post-application. However, paraquat is a nasty product to be around and I would encourage extreme caution when using it. Tillage or swathing can be very effective. This will rapidly kill plants and reduce the likelihood of mites being caught by air movement. When conditions are dry and hot, these mechanical methods of green bridge termination will eliminate mite populations within a few days. However, tillage might also not be a practice you want to implement too much. Grazing is the last option and provides incomplete green bridge control and allows the mites to survive and disperse for an extended period. Unless you plan on extensive grazing, this is not a recommended green bridge termination method.

Overall, the recommendation is to not plant your winter wheat crop until the green bridge hosts are well dead. If you choose glyphosate termination, let at least two weeks pass between herbicide application and crop planting.

*Jesse Fulbright*  
*Liberty County Extension Agent*



### **PBS and Canadians are Back**

**The East Butte TV Club is pleased to announce that PBS TV and the 2 Canadian TV channels have resumed broadcasting from Mount Royal in the Sweetgrass Hills. The transmitting antennas were damaged in a severe winter storm last October and repairs were completed in August. Viewers will likely need to perform a re-scan on their TVs to receive the broadcast. Here is the current channel line-up:**

**Channel 3 KRTV Great Falls CBS**

**Channel 5 KFBB Great Falls ABC-Fox**

**Channel 7 CISA Lethbridge Global**

**Channel 13 CFCN Lethbridge CTV**

**Channel 21 KUGF Great Falls PBS**

**Channel 50 KTGF Great Falls NBC**

**Further enhancements to the broadcasts are planned in the future, including improving the signal quality of Channel 7.**

**East Butte TV Club**

**John Cicon, President**



# CoCoRaHS JULY 2023 precipitation report



Drier than Normal July for Most Farms in Liberty County. July rainfall was a complete turn-around from May and June this year and also July of 2022. The average rainfall from the 22 CoCoRaHS observers was only 0.48 inch compared to the normal of 1.28 inch or just 38 percent of normal. For the 2022-23 water year, which began October 1st, the county-wide precipitation average is 9.35 inches, which is 2 percent above the normal of 9.18 inches.

Only Lybecks and Harmons reported more rain than normal as the result of two brief intense showers at the end of the month that caused some runoff from fields and pastures. Other than being generally dry, there was no spatial pattern to the rainfall.

As a testament to the spottiness of the moisture, measurable rain was observed somewhere in Liberty County on 16 days during July, but the average number of rain days at any one farm was only 5 days. Lybecks reported the most rain days with 9, while Pugsleys had no measurable rain during the month.

At the end of July, topsoil moisture in the first 8 inches at both the USDA site southeast of Lothair and at the new Corps of Engineers weather site 5 miles southwest of Chester was at a dry 13 percent. Subsoil moisture in the 20-40 inch depth ranged from 9 percent south-east of Lothair to 24 percent southwest of Chester.

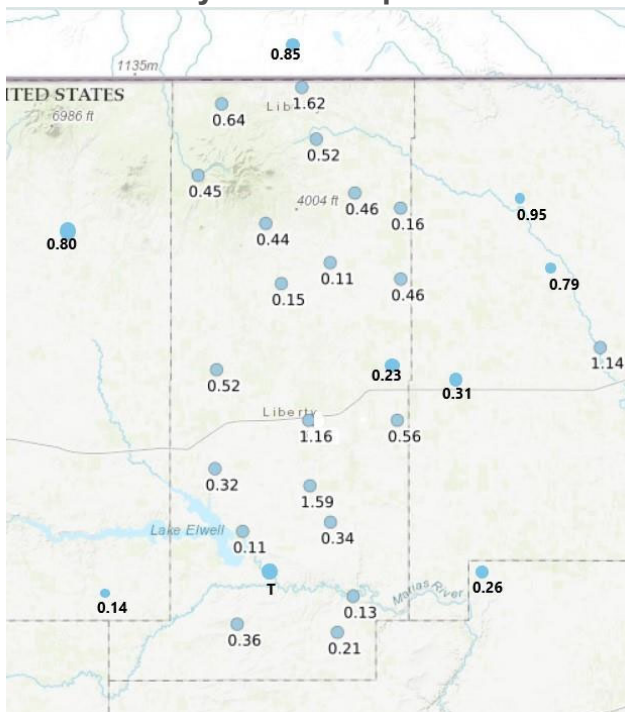
Air temperatures during July at Chester averaged 70 degrees and this was 3 degrees above normal. Cooling degree days, which are an indication of air conditioning costs, were about 50 percent higher than normal, but 10 percent lower than July 2022. The hottest was 99 degrees on the 24th. Temperatures were at least 90 degrees on 8 days, which is about normal. The hottest county-wide temperature was on the 24th with 102 degrees measured 4 miles northwest of Tiber and at a couple farms 12 to 14 miles south of Chester.

July average wind speeds were very close to normal averaging 5.4 mph at the Courthouse and 7 to 7.5 mph at the USDA site and the Jeff Mattson farm. The peak wind gust of 52 mph occurred on the 29th, 7 miles south of Whitlash.

At the end of July, Tiber Reservoir was 90 percent full and had dropped a foot and a half during the month. The inflow rate to the reservoir averaged less than 10 percent of normal for the month.

According to NOAA's Climate Prediction Center, there is a good chance for August temperatures to average near to above normal with near to above normal rainfall. Average temperatures normally drop about 7 to 9 degrees by the end of the month. Normal rainfall stays between 1 and 1 1/2 inches, except 1 3/4 to 2 inches around the Sweetgrass Hills. Measurable rain typically falls on 4 to 6 days through August.

## July 2023 Precipitation



OBSERVER	JULY	NORM	PCT	UNOFFICIAL STATIONS	JULY
Sage Cr Col 4N Lybeck	1.62	1.33	122	Sage Cr Col 3SE	1.04
Chester 7S Harmon	1.59	1.20	133	Sage Cr Col 7E	1.02
Chester Kammerzell	1.16	1.34	87	Chester 2NW	0.99
Whitlash 6NE Engstrom	0.64	.58	41	Tiber 4NW	0.96
Joplin 4S Dahinden	0.56	1.24	45	Chester 5NW	0.80
Tiber 7NW Fenger	0.52	1.30	40	Hill 2SW	0.71
Sage Cr Col 1SE Woods	0.52	1.34	39	Sage Cr. Col 4SW	0.67
Joplin 11N May	0.46	1.29	36	Tiber 7S	0.53
Sage Cr Col 8SE Tempel	0.46	1.39	33	Joplin 2NW	0.48
Whitlash 4SE Thompson	0.45	1.87	24	Whitlash	0.36
Hill 4E Wolery	0.44	1.30	34	Chester 13N	0.35
Tiber Dam 7.6S Buffington	0.36	1.06	34	Tiber Marina	0.35
Chester 11S Osterman	0.34	1.10	31	Lothair 3E	0.32
Lothair 3SE Violet	0.32	1.16	28	Lothair 3SE	0.31
Joplin Snyder	0.23	1.34	17	Tiber Dam 6ENE	0.26
Tiber Dam 12SE Skierka	0.21	1.11	19	Lothair 9NNE	0.26
Joplin 18N Wood	0.16	1.39	12	Whitlash 7S	0.23
Chester 14N Hendrickson	0.15	1.34	11	Hill	0.20
Tiber Dam 11ESE Cole	0.13	1.03	13	Tiber Dam 12E	0.18
Chester 16N Mattson	0.11	1.37	8	Joplin 9N	0.13
Tiber Dam 2 NNW Streit	0.11	1.01	11	Tiber Dam 6W	0.13
Tiber Dam 3SE Pugsley	<u>Trace</u>	<u>0.98</u>	<u>0</u>	Tiber Dam 11SSW	0.12
<b>Average</b>	<b>0.48</b>	<b>1.28</b>	<b>38</b>	Tiber Dam 6E	0.06

# CoCoRaHS AUGUST 2023 precipitation report



Another Dry Month for Liberty County. Lybecks were the only CoCoRaHS observers with slightly above normal rainfall for August. Nearly all of the monthly precipitation amounts that exceeded 1 inch were in the northwest corner of the county. The county average for the 24 official observers was 0.72 inch or just 59 percent of the normal 1.22 inches. For 2022-23 water year, which began October 1st, the county-wide precipitation average is 10.07 inches, which means we have now dipped 3 percent below the normal of 10.40 inches. Measurable rainfall of at least .01inch was reported on an average of 5 days.

At the end of August, topsoil moisture in the first 8 inches was only 14 percent at the USDA site southeast of Lothair and 13 percent at the Corps of Engineers weather site 5 miles southwest of Chester. Subsoil moisture in the 20-40 inch depth ranged from 9 percent southeast of Lothair to 23 percent southwest of Chester.

Air temperatures during July at Chester averaged 69.6 degrees and this was 3.8 degrees above normal. Cooling degree days, which are an indication of air conditioning costs, were about 73 percent higher than normal, but 28 percent lower than August 2022. The hottest were 97 degrees on the 15th and 17th. Temperatures were at least 90 degrees on 6 days, which is about normal. The hottest county-wide temperature was 101 degrees measured 13 miles southeast of Chester on the 15th and also 6 miles east of Tiber Dam on the 17th.

The air quality index in Chester averaged 65 during August, which is in the "Moderate" category. The worst air quality day was on August 17th when the air quality index averaged 125, which is in the "Unhealthy for Sensitive Groups" category.

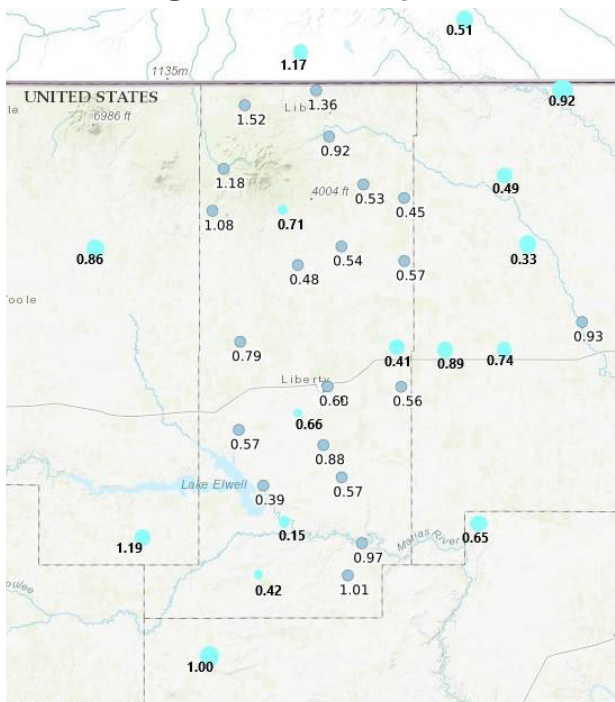
July average wind speeds ranged from 5 mph at the Courthouse and 7 mph at the USDA site southeast of Lothair to 8.1 mph at the Jeff Mattson farm. The USDA site had slightly above normal wind speeds while the Courthouse and Mattsons were slightly below normal. The peak wind gust of 63 mph occurred on the 31st, 7 miles south of Whitlash.

At the end of July, Tiber Reservoir was 87 percent full and had dropped two feet during the month. This is only 4 percent below the normal level at the end of August.

According to NOAA's Climate Prediction Center, there is a good chance for September temperatures to average near to above normal with near the usual rainfall. Normal September rainfall ranges between an inch and inch and ¼ on most farms. We typically see a 10 degree drop in temperatures during September. By the end of the month, normal highs range from the lower 60s over the north county to the mid and upper 60s in the Chester, Joplin, and Tiber Dam areas. Freezing temperatures typically occur during the mid to latter part of September and the average date for a hard freeze of 28 degrees or colder is usually a week later.

CoCoRaHS stands for the Community Collaborative Rain Hail Snow network, comprising over 25,000 active rain gauge volunteers in all 50 states, Canada, the Caribbean, and Guam. If you would like to join the CoCoRaHS program, contact Dennis Hull at 406-982-8870. August 2023 Precipitation

## August 2023 Precipitation



OBSERVER	AUG	NORM	PCT	Unofficial Reports	Aug	Norm	PCT
Whitlash 6NE Engstrom	1.52	1.78	85	Whitlash	2.02	1.85	109
Sage Cr Col 4N Lybeck	1.36	1.31	104	Mt Royal	1.44	4.51	32
Whitlash 4SE Thompson	1.18	1.87	63	Whitlash 6NE	1.30	1.94	67
Whitlash 8S Wickum	1.08	1.50	72	Whitlash 7S	1.12	1.59	70
Tiber Dam 12SE Skierka	1.01	1.19	85	Sage Cr. Col 4SW	0.86	1.81	48
Tiber Dam 11ESE Cole	97	1.05	92	Hill 2SW	0.81	1.44	56
Sage Cr Col 1SE Woods	0.92	1.33	69	Tiber Dam 6W	0.80	1.03	78
Chester 7S Harmon	0.88	1.14	77	Tiber 4 NW	0.72	1.20	60
Tiber 7NW Fenger	0.79	1.20	66	Hill	0.66	1.51	44
Hill 4E Wolery	0.71	0.85	84	Tiber Dam 10ESE	0.62	1.04	60
Chester 5SW KKammerzell	0.66	1.08	61	Lothair 3E	0.56	1.04	54
Chester B.Kammerzell	0.60	1.16	52	Lothair 9NNE	0.56	1.08	52
Chester 11S Osterman	0.57	1.14	50	Chester 13SE	0.55	1.17	47
Lothair 3SE Violet	0.57	1.15	50	Chester 2NW	0.51	1.09	47
Joplin 11N May	0.57	1.24	46	Chester 13N	0.46	1.25	37
Joplin 4S Dahinden	0.56	1.20	47	Chester 5 NW	0.45	1.12	40
Chester 16N Mattson	0.54	1.29	42	Tiber Dam 12SSW	0.43	1.21	36
Sage Cr Col 8SE Tempel	0.53	1.09	49	Tiber Marina	0.36	1.04	35
Chester 14N Hendrickson	0.48	1.25	38	Tiber 7S	0.33	1.06	31
Joplin 18N Wood	0.45	1.27	35	Joplin 2NW	0.33	1.19	28
Tiber Dam 7.6S Buffington	0.42	1.06	40	Joplin 13S	0.29	1.05	28
Joplin Snyder	0.41	1.05	39	Tiber Dam 6ENE	0.23	1.05	22
Tiber Dam 2 NNW Streit	0.39	1.03	38	Tiber Dam 6E	0.22	1.04	21
Tiber Dam 3SE Pugsley	0.15	1.02	15				
AVERAGE	0.72	1.22	58				



# IWD0IDQ #EHHI#DQGZ IFK#

## Ingredients:

3/4 c. extra-virgin olive oil, divided  
 3 lb. boneless beef chuck roast  
 5 tsp. kosher salt, divided  
 2 1/2 tsp. black pepper  
 1 large yellow onion, sliced  
 3 cloves garlic, sliced  
 1 tbsp. Worcestershire sauce  
 2 tsp. dried basil  
 1 tsp. dried oregano  
 1 tsp. dried thyme  
 1/2 tsp. garlic powder  
 1/2 tsp. onion powder  
 1/4 tsp. crushed red pepper flakes  
 5 c. low-sodium beef stock  
 1 green bell pepper, seeded and cut into 1" strips  
 2 c. chopped giardiniera  
 4 soft French rolls, seeded or unseeded, toasted



## INSTRUCTIONS:

- Preheat oven to 325 degrees. In a large Dutch oven, heat 3 tbsp oil until shimmering and slightly smoking. Season beef all over with 4 tsp black pepper. Cook , turning halfway through, until both sides are browned, about 5 minutes per side. Transfer to plate.
- Reduce heat to medium. Add onions and garlic; season with 1/2 tsp salt. Cook, stirring frequently, until onion start to soften, about 5 minutes. Add Worcestershire, basil, oregano, thyme, garlic powder, onion powder, and red pepper. Cook, stirring, until liquid is evaporated, about 1 minute.
- Deglaze pot with 1/2 cup stock, scraping up any bites from bottom of pot. Return beef and accumulated juices to pot. Pour remaining 4 cups of broth so meat is partially covered. Bring liquid to a boil, then reduce heat to medium-low and bring to a simmer.
- Cover pot and bake, flipping roast after 1 hour, 2 hours total. Uncover, flip roast again, and continue to bake until meat is super-tender and easily shreds with a fork, about 30 minutes more.
- Transfer roast to a large bowl and let cool slightly. Using your fingers or 2 forks, shred beef into smaller pieces. Return to pot along with cooking liquid (aujus) and toss to coat.
- Increase oven temperature to 375 degrees. Line a baking sheet with parchment. Toss bell pepper in 1 tbsp oil on prepared sheet; season with remaining 1/2 tsp salt and 1/2 tsp black pepper. Roast peppers until slightly charred and tender, about 20 minutes.
- In a small bowl, combine giardiniera and remaining 1/2 cup oil until well combined.
- To assemble, fill each roll with shredded beef. Top with peppers and giardiniera. Dip sandwiches in leftover jus and serve immediately.