

Northwest Panhandle Crop Notes

May 2024

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Extension Agent – Agronomy

Dallam, Hartley, Moore, and Sherman Counties

Beginning Another Warm Season

Are you ready for soaking rain without the high wind and whatever else comes with storm conditions? I venture that most of you will answer ‘yes’ even though it could cause a relatively short delay with your field work. In my travels around the area and visiting with folks, I gather that a considerable number of acres have already been planted to corn and cotton throughout the Northwest Panhandle. And planting continues with the average day and night temperatures increasing as May unfolds.

This is also that time of year when the progress of cool season crops is on a lot of people’s minds whether the focus is on forage or grain production. There’s an emphasis on both as I frequently observe Growers baling the stover of small grain crops following grain harvest. Whatever options are exercised, fields of small grain plants have reached that critical period of need for moisture and nutrients with flowering past, kernels filling and the general maturity of heads progressing. Such matters weigh heavier and take on additional emphasis in rainfed production systems, those without supplemental irrigation.

Today’s upside around the four-county area as winter past and spring opened is that our soil moisture scenarios were much improved compared to March and April of 2023. Rainfall events dwindled in frequency through April and into May and now conditions are not so different across the area compared to the same time in 2023. Soil moisture profiles are in better shape than they were in 2022 (Fig. 1). Looking at this latest seasonal drought outlook, let us hope the more severe levels of drought stay at bay as spring continues.

Cotton Preplant Conditions and Varieties

If you’re reading my posted blog and newsletter for the first time, here’s a way to better understand the background of our current efforts. Please refer to December’s blog and newsletter posted at <https://moore.agrilife.org>, <https://dallam.agrilife.org>, <https://hartley.agrilife.org> or <https://sherman.agrilife.org> and click on ‘Northwest Panhandle Crop Notes’ under the ‘Agronomy’ link. This information includes objectives for the ongoing studies, now in a third year, and what we have learned so far.

Season 2024 of cotton production season is underway and from what I gather, planting continues at a steady pace across the Northwest Panhandle of Texas. I want to mention a few considerations related to planting and efforts that feed into starting a new season well. But first, let me mention a person who some of you may know, Dr. Ken Lege, Asst. Prof. & Extension Cotton Specialist based at the Texas A&M AgriLife Research and Extension Center, Lubbock. Dr. Lege has an extensive background in cotton production, spent a lot of time in industry and has recently come on board as an Extension Specialist. Ken is ready to share his expertise, be it

training us Agents, engaging in applied research, or conveying insight to cotton producers of the High Plains and Panhandle (North Region) of Texas.

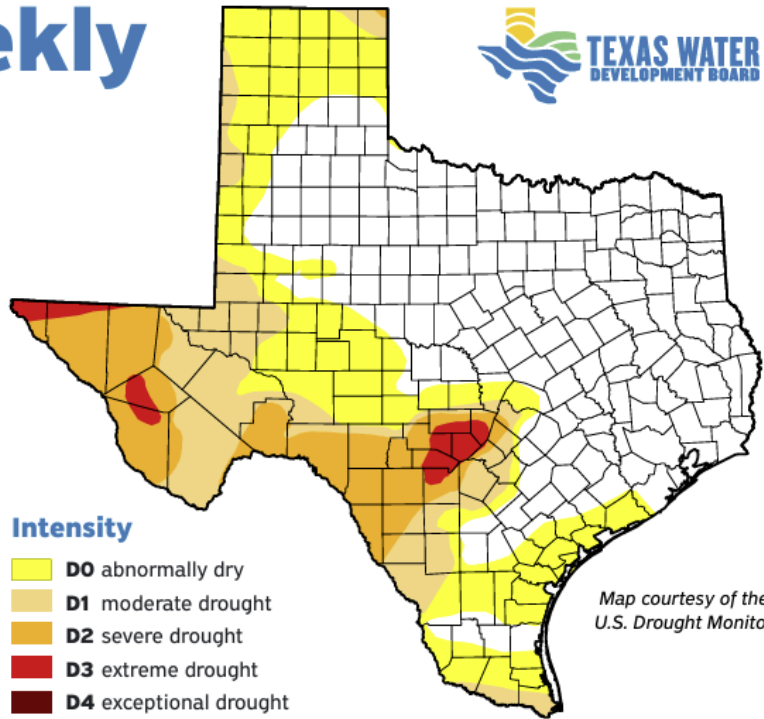
Water Weekly

For the week of **05/20/24**



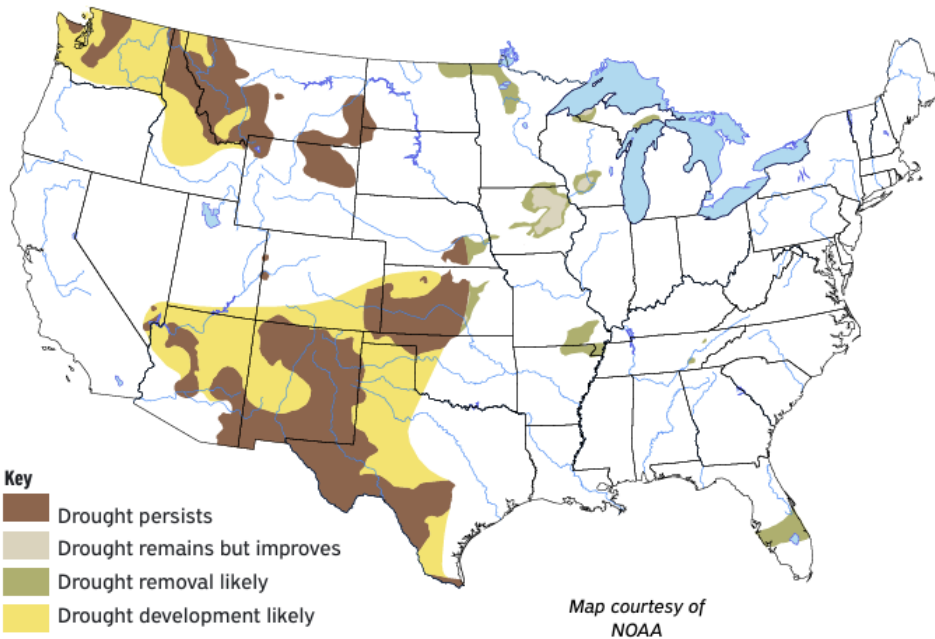
Water conditions

The latest drought map for conditions as of May 14 shows a less than one percentage point decrease in drought from the previous week, making it the third consecutive week that drought has declined. Drought has continued to contract slowly in Central Texas but expand in South Texas.



Drought conditions

- 26%** now
- 26%** a week ago
- 21%** three months ago
- 49%** a year ago



U.S. seasonal drought outlook

Recent rains have fallen primarily in parts of north central and East Texas that are already out of drought. The latest seasonal drought outlook from the National Weather Service expects that trend to continue, leading to drought expansion across the western half of the state through the end of August.

By Dr. Mark Wentzel, Hydrologist, Office of Water Science and Conservation

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Fig. 1. Update on statewide drought conditions and future projection of drought, May 20, 2024.

When is the optimal time to plant cottonseed? Most would say it depends. Quality of the seed and environmental conditions are important considerations. Dr. Ken Lege's update this week indicates that most planted acreage around the North Region starting last week has fair to excellent soil moisture conditions and should have favorable emergence conditions based on temperatures since planting. Take every opportunity to be glad for a few days of soaking rain showers during the planting window, even though it could delay planting a day or two. Since late April, we have been hoping that would happen across our northwest four counties. However, the weather in the Panhandle through May 2024 thus far has not been a repeat of 2023.

Once placed into the seed furrow and covered, the germination process gets underway in a few days requiring that a cottonseed imbibe water coming from surrounding, stored soil moisture. If moisture is lacking in the upper soil profile and overly dry to seeding depth, the uptake of water by the seed will be delayed which also delays germination and emergence. This was a scenario we observed firsthand at a dryland site in 2022 given the lack of upper profile soil moisture coupled with days of warm and gusty wind conditions. We soon observed that seedling emergence was not consistent across most areas of the field and varied with time. Later emerged seedlings were extra vulnerable to disease and insects according to further observation.

Keep in mind that warm daytime conditions support a faster accumulation of heat units. Starting last week and continuing this week around the Panhandle, the accumulation of daily DD60's (Growing Degree Day base 60) fell into the 'good' to 'very good' categories and 5-day total DD60's accumulated at a favorable pace for seedling emergence. See current and past weekly updates compiled by Ken Lege, Ph.D., Texas A&M Extension Cotton Specialist at <https://moore.agrilife.org/agronomy/resources/>, <https://dallam.agrilife.org/agronomy/resources/>, <https://hartley.agrilife.org/agronomy/resources/> or <https://sherman.agrilife.org/agronomy/resources/>. Two field sites that we'll be using to monitor growth and development of cotton during the 2024 season are shown below (Fig. 2). Seedling emergence is underway. Heat units are accumulating at a reasonable rate compared to previous seasons.



Fig. 2. Fields recently planted to cotton in Sherman County, May 2024.

Northwest Panhandle Corn – Soil/Water Relationships

I would say most acres purposed for corn production are planted, have emerged and are off to a good start. Stands of plants in fields I visited this week appear to be consistent across fields and most plants have reached the same leaf stage of growth. In the case of our on-farm, tillage study in north Dallam County, all plots were planted on May 4th. Each of the three treatments including conventional-, strip- and no-till are shown below (Fig 3). Emergence had not occurred in any of the plots as of my previous visit. By now, I am confident most seeds germinated, and new seedlings have emerged. I will be revisiting the plots soon and collecting stand counts to compare across tillage treatments. According to Eric Burton, six AquaSpy soil moisture sensors were reinstalled and activated via a wireless connection this past Wednesday, May 22nd. We will be getting return data feed from these sensors in the next few days. This technology provides a reliable way for farmers to monitor the relative soil moisture status with soil depth during the growing season and is one of five to seven products commonly used by growers in the northwest Panhandle.

How relevant to producer goals and profitability is it to consider pending soil compaction across an irrigated field, a dryland field? Does it matter in fields planted to corn as well as other crops grown in the Texas Panhandle? In short, the answer is yes to both questions. The extent of compaction is highly relevant to water infiltration, water storage, and plant acquisition by developing roots, even a crop's water use efficiency. Soil compaction can reduce plant growth, reduce root penetration, interfere with water, and air movement in the soil, cause nutrient stresses, and delay seedling emergence. Longer term, compaction can reduce yields.

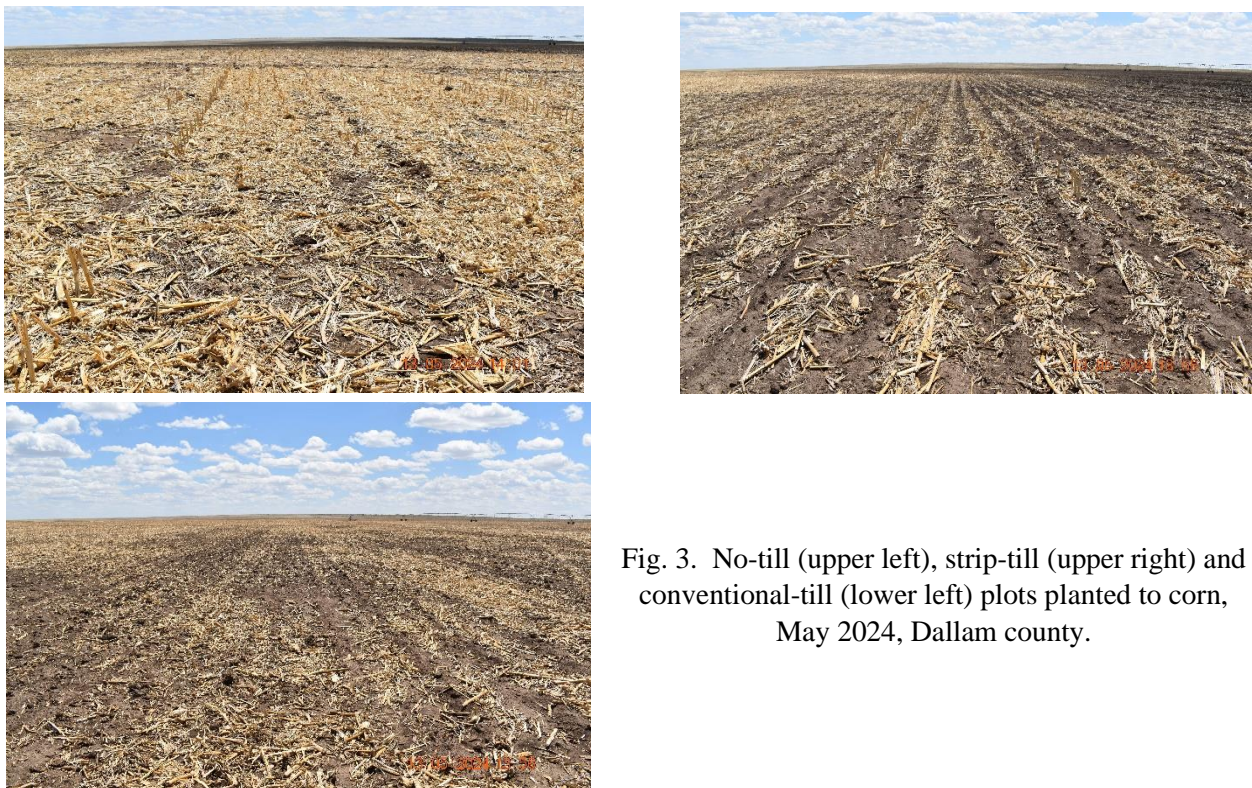


Fig. 3. No-till (upper left), strip-till (upper right) and conventional-till (lower left) plots planted to corn, May 2024, Dallam county.

If a soil profile develops a zone of compaction to the extent that water uptake by a crop is reduced, less yield and lower production profit will result. Symptoms may not be obvious or may go unnoticed during the season. In most fields and situations, it would be better to find out earlier than later about a pending compaction issue. Knowing sooner affords a grower more options, time, and opportunity to implement corrective measures.

How do we find out a particular field has a compaction problem? A soil penetrometer can help and is one of the ‘discovery’ tools in our toolbox. A soil penetrometer is comprised of a steel probe with a pointed tip at the bottom end to penetrate through soil, then a gauge and a pair of handles at the top end (Fig 4). The operator pushes the penetrometer into the soil profile to a desired depth at a steady rate and records the down force required or resistance to penetration, at multiple intervals of soil depth. Manufacturers of soil penetrometers provide sufficient operator guidelines and background information about the how the levels of tension or force required to insert a probe are correlated with root growth. Other reliable sources of information include University Extension publications. You can open, read and/or print files with additional information by clicking on posted links at <https://moore.agrilife.org/agronomy/publications/>, <https://dallam.agrilife.org/agronomy/publications/>, <https://hartley.agrilife.org/agronomy/publications/> or <https://sherman.agrilife.org/agronomy/publications/>.



Fig. 4. Example of digital soil compaction meter and its use in a field.

Soil penetrometer data were randomly collected from all plots in the Tillage Study in Dallam County this past March. There was little difference numerically between tillage treatments at 8, 12, 16 and 20-inch depth increments in the soil profile. Most penetrometer readings ranged from 100 to 200 pounds per square inch, values within what would be considered reasonable. Statistical comparisons of this data will be forthcoming. The north block of replicates in the study represents a finer textured soil (silt loam) whereas, the south block of replicates has a greater fraction of sand (sandy loam). Penetrometer readings tended to be a bit higher in the upper eight inches of the south compared to the north block of plots. Based on observation, this was due in part to the sandy loam soil having less soil moisture compared to the silt loam. Status of soil moisture is a definite consideration when assessing soil profile resistance to penetration or tensile strength. Best to collect readings when soil moisture falls into the range of plant available

water. In other words, soil moisture well above what would be permanent wilting for the crop of interest but not more than field capacity.

The whole study area experiences an integrated livestock presence in the field grazing on and consuming about half of the remaining corn stover during the winter months. Livestock are relocated away from the study site before the introduction of preplant fertilizers and beginning approximately one month before planting. Thus far, we have not noticed any pending compaction issues associated with cattle walking on the plots during the winter.

Other Field Activities in 2024

Corn Performance Trials

Marcel and I have been coordinating this spring with Katrina Horne, Coordinator of Crop Testing, TAMU Dept. of Soil and Crop Sciences at College Station on initiation of two Corn Performance Trials. One trial was planted on May 8 at a pivot-irrigated field of the Lonestar Family Farm located in Moore county, site has coordinates 36.0428830,-101.8787010. Planting of a second trial happened May 21 at a pivot-irrigated field on Four-Way Farms located in Dallam county near Dalhart, site has coordinates 36.101610,-102.540323. We look forward to working with the staff of Crop Testing to get a first-hand look at the performance of several, promising hybrid corn lines and helping to collect data that is beneficial to Producers in the area.

Moth Trapping in Corn

Distributed data from weekly moth counts during the corn growing season helps growers, consultants, and others to keep abreast of moth flights, egg lay potential and likelihood of reaching economic thresholds of worm pressure in corn from four species. These include the Western Bean Cutworm, Southwestern Corn Borer, Corn Ear Worm, and Fall Army Worm.

Season 2024 is about to get underway for adult moth trapping near Bt and non-Bt corn fields in Dallam, Hartley, Moore and Sherman counties. I manage Traps in Moore and Sherman while Laura Taylor manages those in Dallam and Hartley Counties. I want to say thank you up on the front end to Kerry Todd and Jared Meiwes with Lone Star Family Farms. They have been helping me recently to identify sites for trapping. I will send collected data to folks weekly via a Remind text. If you are interested in receiving this information and did not get it in 2023, please get in touch and I will make sure that you get the updates.

It is time to wind down and adjourn my May 2024 blog. There is much more to discuss and update about so I plan to be back soon. I appreciate the support and interest of our Grower-Cooperators, Consultants, Steering Members, and those who represent the agricultural industries. Thanks again to all the sponsors of our winter meetings and programs and those who graciously donate throughout the year.

If you farm in Dallam, Hartley, Moore or Sherman counties and would like to help me as a Steering Committee member, please get in touch. Let me know if I can assist with crop-related issues. You can reach me via email dennis.coker@ag.tamu.edu, call or text 979.224.1583.