

## **NW Panhandle Crop Notes**

*Dennis Coker, Ph.D.*

*Extension Agent – Agronomy*

*Dallam, Hartley, Moore, and Sherman Counties*

December 22, 2020

Howdy folks. Here we are at the second day of winter. Weather conditions have felt and looked like winter on several occasions since we started the fall season. Good to have snow fall during the cold snaps that brought needed moisture for growing small grain, established cover crops, fields with residue cover, and permanent pastures. It appears that most of the cotton has been harvested. Maybe, we will see timely precipitation events going through this winter season that helps to replenish soil moisture reserves.

Though the pace of field operations in the area may be slowing this time of the year, many folks are thinking about and planning for the next season. I want to acknowledge and offer special appreciation to each of our grower cooperators, those who sponsored Extension events, and all individuals who volunteered effort and time to help on steering committees or with other tasks related to Extension programming. You make a big difference and contribute directly to agronomic progress in the NW Panhandle. I look forward to working with each of you in the future.



Plate 1. Rainfed grain sorghum exhibiting relatively high yield potential nearing maturity in late September 2020, Moore county.



Plate 2. Small grain exhibiting vigorous growth on October 22, 2020 in Sherman county.



Plate 3. Emerged, growing cover crop mixture in a field recently harvested for corn silage production in Moore county.

Today's topic is a continuation along lines of my last post. This includes information on the extent that tillage strategy can influence soil moisture, potential benefits of cover crops as related to management of soil moisture, thoughts on mix of crop commodities, and a few pointers on getting access to information through AgriLife Extension.

I. Regarding soil moisture retention, what needs to be considered when it comes to tillage strategy?

1. Generally, reduced tillage will be better for a lot of points we have already discussed. The potential short-term benefits (things like water holding capacity and reduced runoff) as well as long term benefits (things like improved soil structure and greater earthworm population) should be considered.
2. On many farms, the strip-till approach works very well. This will leave an undisturbed, 70 to 80 percent of ground area with residue cover between seed rows. It is worthwhile to compare percentage of residue remaining on the soil surface from different tillage practices. One report I noticed from this area indicated that a grower observed a 20 percent reduction in water usage once he had switched his farm over to a strip-till system.
3. Avoid doing tillage operations at high soil moisture status, for example, shortly after a significant rainfall event. This will alleviate compaction issues (hardpan layers) which impede root development with profile depth and thereby, impede water and nutrient acquisition, and yield and quality potential.
4. Another suggested practice would be to integrate subsurface, banded soil application of stable nutrients such as P and K during cool season tillage operations. This approach will reduce the number of tillage passes needed which saves soil moisture, labor, and fuel costs. In many cases, there can be advantages in terms of nutrient use efficiency and yield of the next season's row crop because of subsurface, banded application of immobile nutrients such as phosphorus.

II. Should cover crops be considered?

1. Possibly. Extension has limited data on performance of cover crops, best species to plant, and water balance. I think the following is a central question to be answered. What are the effects of cover cropping in the NW Panhandle of Texas on soil moisture status with profile depth when it comes time to plant the principal cash crop in the spring?

2. Dr. Jourdan Bell reports benefit from a wheat cover crop in terms of protection from wind damage to young cotton seedlings, improved stands, and no adverse drawdown on soil moisture reserve at spring planting; however, that project is only now reaching the latter part of a second year. More data is needed to reach firm conclusions.
3. Additionally, more information is needed for the NW Panhandle as to how much of a role does cover crop establishment and termination at the chosen time assist with weed control measures or in other words, can it reduce the amount of weed pressure experienced without a cover crop? Does a grower need to initiate adjustments in fertility management, not only for the cover crop but also for the warm season, cash crop? When we mention soil fertility management, we are talking about the 4R's of nutrient management as they are commonly referred to, that being the right source, right rate, right timing, and best placement of a given nutrient.
4. The same set of questions could be considered for the relationship of a cover crop to the primary crop in terms of disease and insect management. Having more information in hand about each of these aspects would be valuable to growers deciding if they should pursue adding a cover crop to the cropping system that is currently used.

III. Are there more things to consider looking ahead through the winter and to future cropping seasons?

1. I would like to encourage folks to participate in as many Texas A&M AgriLife Extension educational and outreach events possible when they happen, whether face to face or virtual (electronic) formats.
2. Also, make good use of AgriLife Extension guidelines and information generated from result demonstrations out in the various counties. Most of the AgriLife Extension Service reports, fact sheets, and production guides are available 24/7 online through Extension county websites (e.g. [www.county.agrilife.org](http://www.county.agrilife.org)), AgriLife Research and Extension Center websites as well as [www.agrilifeextension.tamu.edu/library](http://www.agrilifeextension.tamu.edu/library).
3. Aggressively monitor the status of carryover soil nutrient supply in all fields through soil testing. Adjust for pending deficiencies early as opposed to later in the season. Producers and those making investment decisions really need to know what is going on with not only soil chemical properties and macro nutrients but also micronutrients.... they all support the development of yield and quality.
4. Remember, it takes time, likely multiple seasons, to see improvements in physical, chemical, and biological soil health components. Staying the course and system refinements count in the long run.

- 5. Stay tuned. We will continue addressing agronomic topics and getting out new information in future podcasts, meetings, and blogs.**

This concludes the second of a two-part discussion on residue management. New topics and discussion are on the way. Enjoy the holidays and best wishes to all.