

**No Till Notes: What a Difference!**  
**By Mark Watson, Panhandle No Till Educator**

Last year at this time we were debating whether to plant the winter wheat and “dust it in” or wait and see if it would rain so we had moisture to sprout the wheat seed. Our total rainfall from Aug. to Oct., 2007 had been .35 of an inch. Our soil was bone dry and no relief in sight.

This year we received 2.05 inches during August and 2.75 so far during September. We not only have moisture to plant into, but also some good subsoil moisture going into next year’s growing season. This late summer rainfall will go a long way in producing crops and forage for next summer’s growing season. This moisture will also be very beneficial for the forage/cover crop mix we planted into our irrigated winter wheat stubble. I only wish I had gotten some cover crops planted into our dry land acres!

With the rainfall in August and September totaling 4.8 inches and adding the .75 of an inch we received in July we have about 5.55 inches of subsoil for next year. This subsoil moisture would be in the winter wheat stubble assuming the winter wheat crop didn’t use much moisture in July while it was maturing. Our field behind the field peas would also have similar subsoil moisture.

The fields of dry land corn, proso millet, and a few acres of edible beans will not have as much subsoil moisture in them as the crops are using some of the moisture to grow to maturity. I do feel there will be a 3-4 inches of subsoil moisture for next year’s crops as these crops won’t use all the moisture we have received.

On our sandier soil types, with a water holding capacity of .96 inches per foot, we are over field capacity in a 4 foot soil profile in our winter wheat stubble fields. Any additional moisture we receive between now and next spring when we plant corn or proso millet will be lost. This would have been an excellent opportunity for cover crops to produce nitrogen or forage. It’s an opportunity lost since we didn’t get any cover crops planted. On average we will receive an additional 4.1 inches of moisture between October and May of next year. That is enough moisture to fill my 4 foot soil profile again! I feel like I have mismanaged the moisture Mother Nature has provided by not growing a cover crop.

Our silt loam soils have the ability to store 1.8 inches of moisture per foot. Unfortunately, these soils are only 2 feet deep, with a white calcareous soil underneath. In a 4 foot soil profile I feel we can store about 6 inches of moisture. These soils will absorb some additional moisture before they reach field capacity.

If we were still in the conventional wheat- fallow farming system our moisture management would be even more questionable. During the time from July of 2007 until September of 2008 we have received 15.31 inches of precipitation. Since our soils only store 6 inches in a 4 foot profile, there is 9.31 inches of moisture which we would not have utilized and would have been lost. This seems like a lot of moisture to lose in our semi-arid climate. The 15.31 inches is actually almost 5 inches below normal for this time frame. In an average year we would have lost over 14 inches of moisture in a wheat/fallow production system.

Managing moisture to the best of our abilities is critical as we strive to remain profitable in our semi-arid climate. Our goal should be to better utilize the moisture we receive to make our farming operations more profitable. By narrowing the length of our fallow periods and producing additional forage or grain our farming operations should be more profitable. Eliminating long fallow periods would also improve the quality of our soils by producing more organic matter for the soils. It should be a win-win for our economics and soils if we leave the

previous crops residue on the soil surface, no till the crops or forage, and improve the soil quality of the soil we work with.