

### Keep it covered

**By Mark Watson**

*Panhandle No-Till Educator*

Last week I was invited to the Nebraska Ag Educators meeting in Kearney. I was invited to speak about the water conservation benefits of no-till crop production.

The meeting consisted of around 200 of Nebraska's high school agricultural education teachers and speakers invited to address the group about the many physical, chemical, and biological components that make up our soils.

Dr. Ray Ward of Ward Laboratories was also invited to speak at the meeting. I had supper with Ray the night before the meeting and had a nice visit with Ray. He is installing equipment at his lab to test soil microbes for mineralization of nutrients this week.

I sent soil samples to Ray from our farm to be tested for soil microbes. Hopefully by next week I'll have the results of these tests and will share them with you in a future article.

Dr. Gary Peterson, Professor Emeritus at Colorado State University, was the keynote speaker for the meeting. Peterson was my soil science teacher at the University of Nebraska back in the mid 1970s. He later moved on to Colorado State University where he continues to work part-time as a soil scientist.

Dr. Peterson's work over the past 20 years has been with dry land cropping systems. He has used applied soil science principles to study dry land cropping systems that will maximize water conservation and reduce soil erosion.

Dr. Peterson's presentation at the meeting gave us a historical perspective of the history of agriculture in our region. He pointed out the failures of the sod busters and the dust bowl era. The pioneers who settled our region had come from the eastern United States or from Europe. They came from areas where the soil evaporation rates were lower than the amount of precipitation they received. Our semi-arid region has a completely different climate.

In our region the open pan evaporation rates which measure the amount of water evaporation on a daily basis show a dramatically different climate than the climate the pioneer's had come from. The evaporation rates in our region are roughly three times higher than the amount of precipitation we receive.

The sod busting techniques the early settlers used of plowing the soil and turning it over was doomed from the start due to these high evaporation rates. The soil was evaporating moisture at a higher rate than the precipitation could replenish. Dry, windblown soils quickly followed.

Dr. Peterson's message to the audience that will lead agriculture into the future and help ease our soil moisture evaporation rates is simple. Keep the soil covered at all times with residue and growing crops. Our soils will improve over time and rebuild the organic matter we've lost if we keep our soils covered.

I very much appreciated Dr. Peterson's comments to the audience.

I feel the same that as we look at the past and see how our soils have deteriorated over time,

the key to moving to the future of agriculture in our region is to keep our soils covered at all times. This strategy will improve the quality of our soils and conserve water on our dry land and irrigated acres.