

No Till Notes: Chem-Fallow is Not No Till

By Mark Watson, Panhandle No Till Educator

I feel I need to clear up a persistent misconception about no till farming. It has come to my attention from several sources around the Panhandle that I need to define what no till crop production farming is, and more importantly, what it isn't.

In the late 1980's we began using glyphosphate to replace the disc in our early tillage operations in our wheat-fallow farming system. We discovered that an initial spraying of glyphosphate did a much better job of controlling volunteer winter wheat and cheatgrass than using a disc to work the ground either in late fall or early spring. We would generally disc the ground a couple of times and still not get as good of control of weeds as we would with 1 spraying of glyphosphate. Later during the early summer we would begin working the ground to prepare a seedbed for the fall seeded wheat and control the summer annual weeds that would germinate.

We then discovered the value of leaving the residue on the soil surface. After the initial spraying of glyphosphate we seemed to maintain better moisture with the residue left on the soil surface. At this point we decided to continue spraying glyphosphate in place of tillage and began to look around for a drill that would plant the winter wheat into the stubble from the previous winter wheat crop. We thought we were in fact beginning to no till farm.

We faced several problems with this chem-fallow farming system. These are the same problems producers today face when they replace tillage with herbicides and discover no till farming doesn't work. We soon decided this approach to no till farming didn't work.

The problems created by chemical fallowing are numerous. The main obstacle is the cost of the herbicide applications. We would spray the fields four to five times during the fallow period in order to control the weed population. We also discovered that the weeds tended to do pretty well since they had ample moisture to grow in and no competition from a crop.

We also were told by researchers that leaving the residue on the soil surface from the same wheat crop may promote disease in the wheat crop we planted. We were attempting our version of no till farming by trading tillage for herbicides and producing a monoculture crop of winter wheat using a long and expensive fallow period.

Producers around the Panhandle are also attempting this misunderstood version of no till farming and discovering it doesn't work and I wholeheartedly agree with them. Chem-fallow doesn't work. The high cost of glyphosphate and the extended fallow period with multiple sprayings is not no till farming! Chem-fallow farming practices simply replace tillage with herbicides and do nothing to enhance the soil, promote diversity, control persistent weed populations, utilize moisture, and most importantly add profitability to the farming operation!

No Till Notes: What Is No Till?

In my last article I tried to clear up the idea that doing a chem-fallow rotation in wheat is not what no till farming is. Chemfallow is merely replacing tillage with herbicides and does nothing to control long term persistent weed populations such as

cheat grasses, rye, and goat grass in winter wheat production. Chemfallow also does not utilize the moisture we receive any better than a black fallow or tillage fallow does during this extended fallow period. Chemfallow may also enhance the likelihood of disease in the seeded wheat by leaving the winter wheat residue on the soil surface and seeding wheat back into this stubble. Chemfallow also does nothing to promote soil health as it leaves a sterile environment in the soil for an extended period of time.

No till crop production is about managing your soil, residue, and water. No till producers strive to improve their soil by using diversity in their rotations, proper cropping intensity to manage the water they receive, and utilizing the previous crops residue to assist in weed control, water management, and prevent wind and water erosion. Diversity in the rotations allows producers to control persistent weeds by removing the opportunity for these weeds to flourish. Simply stopping tillage is only the first step in becoming a no till crop producer.

No till producers do not rely on herbicides as the sole means of weed control. Proper crop rotations mixing cool and warm season grasses and legumes is the initial defense against persistent weed populations. Utilizing the previous crops residue by leaving it on the soil surface also helps with weed control. Minimum disturbance during planting is also an important tool. Herbicides are then used to pick up the weeds that have escaped all the other good management practices the producer has installed.

No till producers also understand they have to have diversity in their crop rotations to improve the health of the soil and utilize the moisture Mother Nature provides. Crop diversity allows us to narrow the fallow period between crops and better capture the moisture Mother Nature provides and use this improved water management to produce additional grain or forage.

Soil health is improved in no till farming practices by leaving the residue on the soil surface. This lessens the loss of soil to wind and water erosion. Diversified cropping rotations also improve soil organic matter and provide food for many different types of soil micro organisms.