

## **No Till Notes: Sugar Beets I**

**By Mark Watson, Panhandle No Till Educator**

Sugar beets have been an important cash crop for the Panhandle of Nebraska for many years. If water allocations were drastically lowered, would producers still be able to raise high yielding and profitable sugar beet crops? I believe we could and I think no till farming practices would aid in this effort to raise profitable sugar beet crops with less water.

Sugar beets have a deep tap root which would make me think they would adapt well to limited irrigation since they could go deep into the soil profile to access soil moisture. Researchers have determined sugar beets are one of the more water efficient crops. Sugar beets were grown dry land at the High Plains research farm near Sidney this year and early indications are they will yield pretty good. With proper soil and residue management I think sugar beets could produce a high yielding crop with considerably less water than producers have used in the past. The sugar beet industry has also adopted Roundup Ready technology for weed control in sugar beets. Weeds would be relatively easy to control in no till sugar beets provided we don't develop glyphosphate resistant weeds in the near future.

So what are the challenges to no till farming practices with sugar beet production? One challenge would be establishing the crop in heavy residue. As with any crop planted into no till crop production, there is always a challenge of managing the high amount of residue in planting the crop. I think with proper planter adjustments and adaptations, establishing the crop in high residue would be relatively easy. We faced the same challenges with corn and edible beans and have made improvements to our planters which have given us good stands of these crops. One of the biggest improvements we made to our planters was to have enough weight on the planter frame that the down pressure springs could work properly. Once the sugar beet crop is established, the high amounts of residue would prove beneficial in crop development.

Another challenge would be soil compaction. Proper crop rotation would help solve compaction problems. Moderate compaction problems can be solved over time with freezing and thawing and root development through the compaction layers.

Next week I'll continue with this concept of growing sugar beets in no till. But I'd like to mention the upcoming Winter No Till Conference that is coming up at the Gering Civic Center on November 18-19. This conference will be an excellent opportunity for producers to learn and see first-hand how no till is done. Conference speakers will include Dwayne Beck, Paul Jasa, Ray Ward, Bruce Bosley, Will Eitzman, Steve Melvin, Randy Anderson, and Al Dutcher, along with a panel of producers who are making no till work on their place. There will also be an evening social where you can mingle and visit one on one with any of these experts. Cost for two full days of no till know-how, manuals, literature, and meals is \$75. Conference sponsorships are also still available. Consider it an investment in your operation or your business. You can see a full agenda and get registered now at <http://www.panhandlercd.org/notill.htm>.

## **No Till Notes: Sugar Beets II**

Last week I talked about growing sugar beets in a no till situation. This week is a continuation of that concept.

If I were going to no till sugar beets, I would start with a field that has been no till farmed for at least two to three years. I think an ideal rotation for no till sugar beets would be no till corn, followed by edible beans, followed by winter wheat, and then planting the sugar beets into the winter wheat stubble. This would allow for compaction layers in the soil to weaken over time and lessen the likelihood for compaction problems with the sugar beet crop.

Another challenge for no till sugar beet production would be with the defoliator and some problems with the digger. Both these problems may be solved with slight alterations to the equipment. The defoliator may need additional flailing attachments to lengthen the amount of area they defoliate in case they do get off the row. The digging equipment may need stabilization so it would stay on the row on sloped hillsides. It may be possible to make adjustments to the harvest equipment so the digging of the sugar beets would be possible without a ditch in-between the rows.

Another challenge may be getting the beets to the trucks at the end of the field to avoid compaction by driving the trucks through the field. Large carts with flotation tires to deliver the beets to the trucks may be needed.

After the beets are harvested I would think there would be enough residue on the soil surface to prevent wind erosion if the field has been no till farmed the previous years. Another alternative may be to seed a cover crop into the beet field prior to harvest so there is a crop established in the field to prevent wind erosion over the winter. The following year corn could be planted next to the old sugar beet row and the rotation would be in place.

These are some ideas I have when I look at an important crop like sugar beets and try to find answers to sugar beet production with less available water. The benefits of no till farming practices in water efficiency would be realized if we can figure out a way to produce sugar beets in a no till crop production practice. Since I don't have experience with sugar beet production, I'm a poor candidate for finding answers to these production problems. I'm sure sugar beet producers would have better ideas than what I have presented. I would encourage the sugar beet industry into looking for ideas and research that will result in less water use in producing this important crop for our area farmers.

It's one thing to read about no till concepts and successes, but another to actually see it done, or learn directly from the experts. I want to remind you of the Winter No Till Conference on November 18-19 at the Gering Civic Center. This conference will be an excellent opportunity for producers to learn and see first-hand how no till can be started, enhanced, and continued on your place. You can see a full agenda and get registered now at <http://www.panhandlercd.org/notill.htm>.