

North Dakota State University Extension Research

In Cooperation with Orthman Manufacturing, Inc 2010

Starting back in 2008 NDSU expressed that getting a more sound agronomic and ecological method to pre-plant tillage was right smack in the middle of their radar for the future. Conversations, telephone calls, plans, and the delivery of an 8row 1tRIPr to Oakes, North Dakota – field trials are being carried out to show the positive effects of strip-tillage to the soil resource and farmers checkbook.

In 2010 Walt Albus, agronomist and leader of the Oakes Experiment Farm has provided us and you another excellent report of what has happened in the SE corner of North Dakota with strip-tilled corn and soybeans. He is carrying out research with corn on corn and corn in rotation with soybeans. We invite you to look at the data and consider what the progress is with strip-till and compare that with what happened in your area or even closer, on your farm.

Table 1. Strip-Till Trials demonstrating yields in continuous heavy corn and corn and following soybeans; corn was a 92 day RMD Dekalb variety planted and harvested

Fertilizer N Rate	Grain Yield¹	Harvest Moisture	Test Weight	Emerge Date	Silk Date	Mature Date
lb/ac	bu/ac	%	lb/bu			

Strip-Till Continuous Corn Plots

20	94.3	13.6	54.8	5/22	7/18	9/17
150*	195.2	14.1	56.9	5/22	7/15	9/15
200*	200.2	13.9	56.7	5/22	7/16	9/15
150	190.6	15.5	56.4	5/23	7/18	9/18
200	192.2	15.1	56.4	5/23	7/18	9/18

Strip-Till Corn after Soybeans

20	112.9	23.9	57.3	5/21	7/18	9/15
100*	188.4	22.6	59.6	5/21	7/15	9/14
100	210.0	24.1	59.3	5/21	7/17	9/14
150	227.9	24.0	59.8	5/22	7/17	9/15
200	229.2	23.4	60.0	5/22	7/16	9/14

Note: * dribble applic of N

The 150d and 200d trts were dribbled 2-3 inches from the seed row with the planter. To facilitate the dribble trts we eliminated the 50 and 100 # N trts. So in this first year of switching the 150d and 200d dribble trts had less residue to contend with than the 150 and 200 # N trts.

All corn plots were spring strip-tilled to an 8-inch depth with the closing coulters set 12-inch apart. Ten gallons of 10-34-0 was injected at a 4-inch depth. Except for the dribble N treatments, all N rates were injected as 28-0-0 at the 8-inch depth. The 20, 150 and 200 # N treatments were injected with the Orthman. This decrease in residue at planting resulted in the 150d and 200d trts to emerge a day earlier, silked 2 days earlier and reached maturity 3 days earlier than the 150 and 200 # N rates. Despite a very aggressive strip-till operation this data shows that the level of initial residue still impacts growth and consequently yield.

For any other information, we suggest you contact Walt Albus...walter.albus@ndsu.edu