CONSERVATION CROPPING SYSTEMS PROJECT

10th ANNUAL REPORT
2011

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Kelly Cooper Farm Manager

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PROJECT DESCRIPTION

The Conservation Cropping Systems Project (CCSP) is located on a 130-acre tract of farm land two miles south of Forman, ND along Highway 32. A 14 member Board of Directors composed of local producers in northeastern South Dakota and southeastern North Dakota advises the CCSP staff. Diverse crops are grown in 16 rotations that range from one to six years under no-till, strip till, shank and disk drill cropping systems. A total of 172 60x220 foot plots plus several irregular shaped “bulk area” plots ranging from 1/10 acre to 8 acres are

used for planting and demonstrations. Rotations are demonstrated to look at their effect on water and wind erosion, soil tilth, soil moisture retention, organic matter changes, and profitability. Each crop within a rotation is grown every year and replicated three times. Other practices and demonstrations done include variety trials, livestock waste applications, carbon sequestration studies, weed control experiments, livestock grazing, saline cover crop and saline alfalfa trials, biological strip till, radish rooting depth, and equipment demos to name a few.

The project provides producers data and physical observations that allows them to see advantages and disadvantages of a range of crop rotations in no-till and conservation crop production. The effective use of crop rotations to break weed, disease, and insect cycles is demonstrated. The placement of legumes in rotations reduces dependence on fertilizer N. Recent work by Dr. Dave Franzen of NDSU has shown that long term no-till requires 50 lbs less nitrogen fertilizer to grow the same crop as conventional tillage. Dr. Franzen feels the increased amount of biology and organic matter in no-till effectively grabs the applied nitrogen and holds it much more efficiently than in conventional tillage. In other words, leaching and volatilization losses may be considerably less.

This project is a living classroom to demonstrate that agriculture can produce food, fuel and fiber in an environmentally favorable manner, preserving and enhancing soil, wildlife habitat and water quality, while providing producers with competitive to superior economic returns.

PROJECT PURPOSE

Our goal is to demonstrate profitable farming methods, machinery, and philosophies that promote soil and water conservation.

PROJECT SPONSORS

The Conservation Cropping System Project is funded through the sponsorship of governmental, corporate and private parties. The Wild Rice Soil Conservation District is the principle cooperating agency, supplying office space, facilities and administration of the project. Other cooperating agencies are the Natural Resources Conservation Service (NRCS), North Dakota State University (NDSU), and South Dakota State University (SDSU). Sponsorship is either as a cash donation, in-kind or both. There are four levels of sponsorship: Platinum ($10,000 or greater), gold ($5,000 - $9,999), silver ($2,500 - $4,999) and bronze ($500 - $2,499). We wish to thank our sponsors listed on the next page for their support! Without them this project would not exist.

CCSP Budget sponsors donations

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Special Thanks

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Walt Albus

Figure 1. 2011 overhead view of the Conservation Cropping Systems Project.

CROP ROTATIONS AT CCSP

Six cash crops are present in rotations: HRSW, HRWW, corn, soybean, alfalfa and flax. (See figure 2) Switch grass, and cover crops have been added to the farm in the past 5 years. Cover crops can include a whole host of traditional and non-traditional crops that work to pull up and stabilize nutrients, manage salinity, and improve soil health. Three seeding techniques: disk drill, shank drill and strip till, are being studied within the HRSW-HRWW-corn-soybean rotation. New in 2010 was the planting of corn into “bio-strip till”. Radish and peas were planted in rows in the fall of 2009 and then corn was planted directly into the radish rows in 2010 with very positive yield results. Additional crops are added and subtracted as deemed desirable. We will add a new rotation we will call “Q” in 2012. With the addition of the Dakota Plains Fertilizer plant some years ago, several of the “M” rotation plots were eliminated. With the addition of the NDSU spring wheat and winter wheat variety trials, we broke up the “L” rotation. In order to look at growing winter wheat after soybeans and to look at continuous corn we broke up the “H” rotation. Thomas Zimmerman, a graduate student at NDSU, has done a detailed economic analysis of the rotational work at CCSP and determined the old “H” rotation came out on top. In order to pursue that line of thinking, we

decided to bring back a modified “H” rotation. The new rotation “Q” will be sw-ww-s-c-s-c-s. Key considerations of rotations are their profitability, weed/insect control, moisture use or savings, and something we could call farm synergy. Rotations do a wonderful job of giving a farmer built-in opportunities to manage weed and insect resistance, spread manure, pick rocks, graze livestock, plant cover crops and add recreational activities such as hunting.

CCSP Rotation Key	
spring wheat/winter wheat/corn/soybeans -	A
spring wheat/winter wheat-st/corn/soybeans -	B
spring wheat/winter wheat-biost/corn/soybeans	C
spring wheat-st/corn/soybeans	D
spring wheat-cc/soybeans	E
corn/soybeans-st	F
spring wheat-cc-st/corn/soybeans/corn/soybeans	G
continues corn since 2006-st	H6
continues corn since 2008-st	H8
spring wheat/winter wheat/flax-st/corn-st/corn/soybeans	I
winter wheat/soybeans/corn-st/corn/flax	J
winter wheat-bio-strip/corn/soybeans	KH
spring wheat/winter wheat/alfalfa/alfalfa/corn/soybeans	N
corn/cover crop	**O**
spr wht/win wht/soy/corn/soy/corn/soy	***Q***

note-st denotes strip till operation, cc-denotes cover crop
For 2012 rotation L and M were moved into rotation Q
For 2012 added ww as cc to rotation G after spring wheat. Use strip till in spring

Figure 2. Crop rotations at the Cropping Systems Project at Forman, ND, 2012.

Each plot is 60 feet by 220 feet. Each crop within the rotation sequence is present each year. Each rotation sequence has 3 replications. For example in rotation F, corn is replicated three times as Fc1, Fc2 and Fc3.

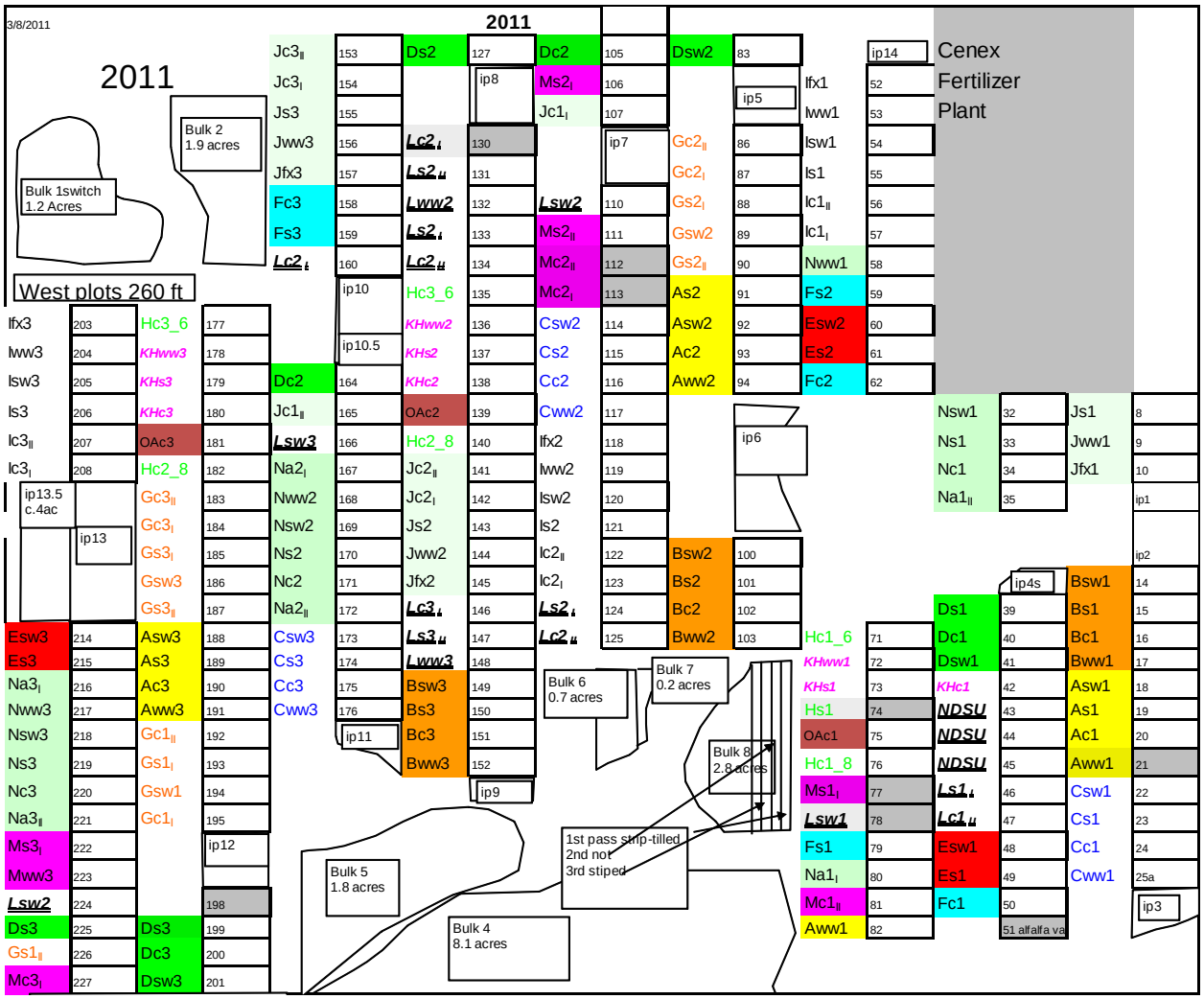

Figure 3. Plot map of rotations and their location in 2011.

Local Weather 2011

2011 may be looked at as the crescendo of wetness. The winter was terrible, but not horrible. There were not a lot of storms, just a lot of snow with high moisture content. When spring came, all that snow melted on ground that was already wet from fall rains and multiple years of high moisture. The fall of 2010 started out wet. Lots of rain in September, but October and early November were pretty dry. Then winter hit with a stab of cold and snow around mid November. The snow just kept coming with no warm weather. From December of 2010 through May of 2011 all months were below average in temperature with March a whopping 9 degrees under normal. (See figure 4). When the end of March came, it was apparent there was a lot of snow, and a lot of moisture in the snow. Some reports talked of 6 or more inches of rain equivalent. I remember talking to someone towards the end of April and they thought it would be three weeks before we got in the field. They were not too far off. We eventually got a crop planted. The rains continued, and then the storms came. The first of several wind storms hit CCSP on May 30th, sending our gravity wagon careening about the plots. Plot work

continued amid the rains. Replanted corn was again drowned out, but as field day approached and temperatures began to warm I was optimistic as the plots started to look pretty nice. On July 10 the mother of all 2011 storms hit and dashed my hopes with 80 mph winds and lots of hail. The corn was in rapid growth phase and green snap was 80% in spots. Hail damage was moderate to severe. CCSP was on the NE edge of the highest damage. Crops were zeroed out just west and south of the farm. Rain continued through July and the first 2 weeks of August. Growing units were abundant (figure 5) with the especially high night time temperatures. Then, for no apparent reason, it stopped raining in mid August. Fall planted cover crops, alfalfa, and winter wheat received enough rain to grow, but not much more. According to the North Dakota State Climate Bulletin, http://www.ndsu.edu/ndsco/publication/current.pdf, November was the closest to being a record with 0.13 inches rain recorded against the record low of 0.02. Let's face it, the difference between those numbers won't float many boats. It was by most all who have endured the stretch of floods, wet fields, ruined roads and wet basements a welcomed development indeed. Other statistics from the report conclude it was North Dakota's 9th warmest fall, but 40th driest. If I remember my math correctly this would have still put this fall close to the median for rain. Interesting when you look at how much water has gone away, at least in some locations. Higher temperatures really help with low rainfall to dry things out. What to expect in 2012? A quick glance at the 90 day outlooks issued Feb 2012 indicates we are on the path for normality, possibly a little warmer and a little drier than normal. This would continue the trend of warmer and drier forecasts as indicated just a month ago.

Calender year 2011 Weather

	Temperature (f)			Precipitation (in)		
	30yr	2011		64 Yr	2011	
Month	average	average	deviation	Mean	Total	deviation
January	8.0	4.0	-4.0	0.50	1.31	0.81
February	16.0	10.0	-6.0	0.50	0.49	-0.01
March	28.0	19.0	-9.0	0.80	1.49	0.69
April	43.0	42.0	-1.0	2.01	2.58	0.57
May	57.0	54.0	-3.0	2.95	3.63	0.68
June	66.0	66.0	0.0	3.60	3.76	0.16
July	71.0	75.0	4.0	2.88	7.20	4.32
August	69.0	70.0	1.0	2.75	2.26	-0.49
Septembe	58.0	59.0	1.0	2.07	0.39	-1.68
October	45.0	50.0	5.0	1.35	1.05	-0.30
November	28.0	32.0	4.0	0.60	0.08	-0.52
December	14.0	24.0	10.0	0.60	0.33	-0.27
mean total	41.5	42.1	0.2	20.61	24.57	3.96

note:Temps are from Oakes ndawn, growing season precip is CCSP farm
Non growing season precip from local NOAA coop observer se of Forman

Figure 4. Growing season temperature and precipitation 2011

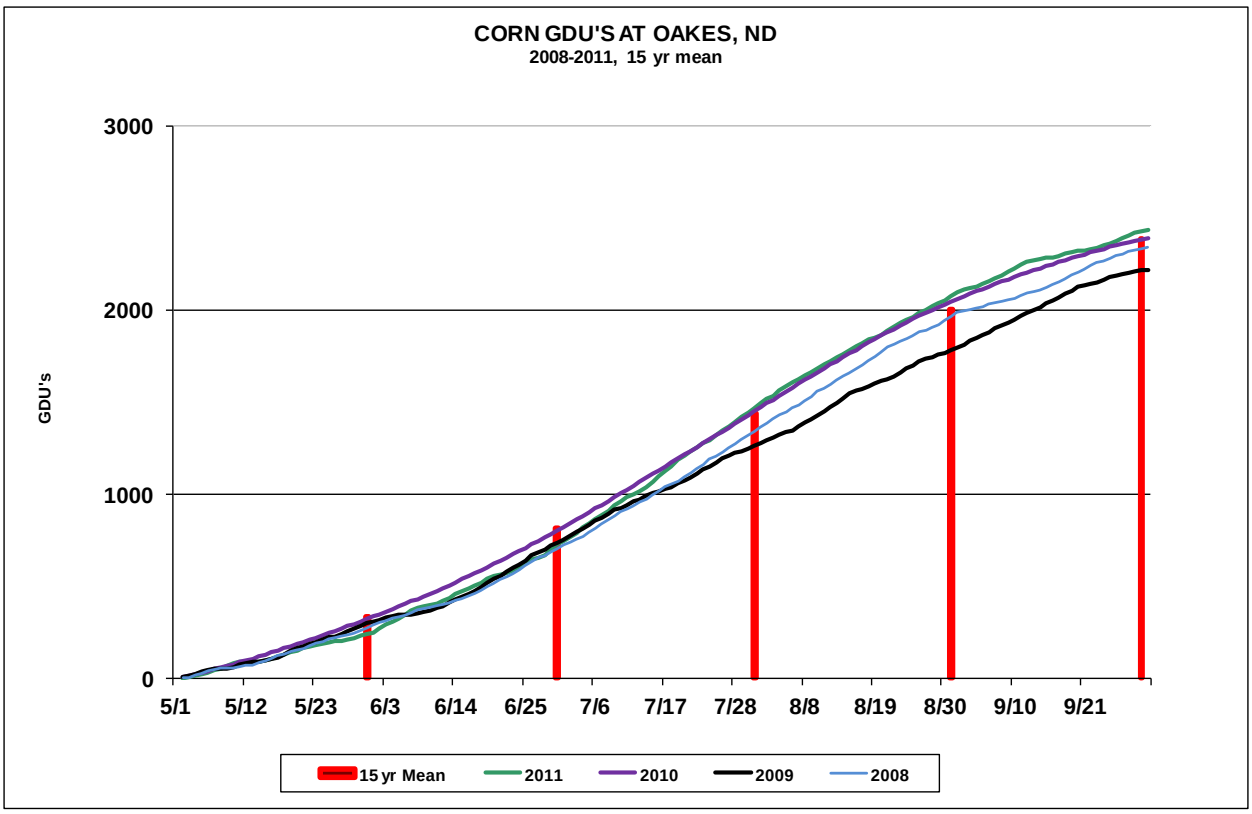

Figure 5. Growing degree units accumulated for corn at Forman, ND, 2427 in 2011 May 1- Sept 30 and the 15-yr mean of 2345.

AGRONOMIC PRACTICES AND YIELD

A detailed outline of agronomic practices used is listed in Figure 6.

Wheat: WestBred "Matlock" HRWW was planted September 17-20, 2010 with a John Deere (JD) 1590 single disk drill in the 3 disk drill plots (Rotation "A"), the 20 ft Amity twin disc drill in the 3 plots of the "N" rotation, and the balance of the plots seeded with a 10-foot Concord air drill with triple shot Anderson seed boots at a 10-inch spacing. Brick spring wheat was planted with the JD 1590 drill, and the Concord drill between May 6 and May 17, 2011. Starter fertilizer at a rate of 78 lb/ac of 11-55-0 was placed with the winter wheat seed in all non alfalfa winter wheat plots. The N rotation was seeded with the Amity drill and 120 lbs 11-55-0 was deep banded for alfalfa. A fertilizer nitrogen application of 100 lbs as 28-0-0 was applied with stream nozzles to HRWW on May 9, 2011. A total application of 122 lbs N as 28-0-0 with stream nozzles was applied to HRSW with 62 lbs applied 6/3 and 60 lbs 6/12. Winter wheat was harvested on July 29 and spring wheat on August 18. Tractor used was the CaseIH MX 335 with RTK autosteer.

Flax: Yellow flax was planted with the John Deere 1590 on May 26. Flax received a post application of 50 lbs/ac Nitrogen as 28-0-0. Callisto was applied on May 29 and Select Max on July 2. The 1590 John Deere was pulled by CaseIH MX335 with RTK autosteer.

Corn: Pioneer 9630XR was seeded in 56 rotational plots. Variety, strip till, and corn on corn questions were addressed. The rotation plot corn was planted May 18-19th. The bulk areas and strip till/variety trial were done June 4th. All corn planted at population of 32,097. Fertilizer at planting was 139 lbs nitrogen and 48 lbs phosphorus including 5 gallons 10-34 in-furrow. The corn on corn received 50 lbs extra nitrogen with a stream nozzle application. Strip tilling was done on the appropriate plots on November 8-9th. 7200 John Deer planter pulled by MX335 with RTK autosteer.

Soybeans: Croplan R2T0860 Planted June 5-6th at 180K population. The early maturing soybeans, NK S00J9 and NK S00-W3 were planted in the KH rotation where winter wheat is seeded in the fall. 7200 John Deere Planter pulled by MX335 with RTK autosteer.

Alfalfa: On 1st year plots Dairyland Magnum Force V was planted August 11, 2009 @ 20 lbs. Dairyland Magnum Force V alfalfa was planted August 16, 2010 @20 lbs / acre. Amity twin disc and John Deere 1590 pulled by MX335 with RTK autosteer.

Crop	Planting Date	Harvest Date	Planting Rate	Chemical	Rate	Date
Alfalfa 2nd Yr	**8/11/2009**	**June**	**20#**	**RU/24D/ (kill out)**	**32 oz+1.5pts**	**09/24/11**
Dairyland Magnum V wet		**July**				
Alfalfa(establish)	**8/16/2010**		**20#**	**Select Max**	**12 oz+NIS**	**09/10/11**
Dairyland Magnum V wet						
	Planting	**Harvest**				
HRSW	**5/6-5/17**	**8/18/2011**	**120#**			
Brick				**RU**	**32 oz**	**10/21/11**
				Woverine	**1.7pts**	**06/13/11**
				Stratego	**4 oz**	**06/13/11**
				Interlock	**4 oz**	**06/13/11**
				Prosario + NIS	**6.5 oz**	**07/06/11**
				Round Up Ultra Max	**22 oz**	**08/05/11**
	Planting	**Harvest**				
HRWW	**9/17-9/20**	**7/29/2011**	**120#**			
Westbred				**Woverine**	**1.7pts**	**06/04/11**
Matlock				**Stratego**	**4 oz**	**06/04/11**
Soybean ground				**Interlock**	**4 oz**	**06/04/11**
seeded 9/22				**Prosario + NIS**	**6.5 oz**	**06/19/11**
				Round Up Ultra Max	**22 oz**	**07/21/11**
	Planting	**Harvest**				
Corn	**5/18-5/19/2011**	**10/14/2011**	**32,000**	**Roundup Ultra Max II**	**32 oz**	**06/11/11**
Pioneer 9630XR				**Laudis**	**3 oz**	**06/11/11**
				Atrazine	**1/2 lb**	**06/11/11**
Strip/variety trial	**6/4/2011**			**Interlock**	**6 oz**	**06/11/11**
				ams	**10lbs/100**	**06/11/11**
				Preference	**1 pint**	**06/11/11**
				Roundup Ultra Max II	**28 oz**	**07/03/11**
Strip tilling done 11/8-11/9/2011				**Interlock**	**4 oz**	**07/03/11**
				Preference	**1 pint**	**07/03/11**
	Planting	**Harvest**				
Soybean	**6/5/-6/6 2011**	**10/3/2011**	**180,000**	**32 ozRU+1.0 24-d+2oz valor**		**05/16/11**
Croplan R2T0860				**Roundup Ultra Max II**	**32 oz**	**07/07/11**
				Roundup Ultra Max II	**22 oz**	**08/05/11**
Short day beans				**Warrior**	**1.6 oz**	**08/05/11**
NK-S00-J9 and NK-S00-W3				**Interlock**	**4 oz**	**08/05/11**
	Planting	**Harvest**				
Flax	**5/26/2011**	**9/19/2011**	**80#**	**Callisto**	**6 oz**	**05/29/11**
				Select Max	**16 oz**	**07/02/11**

Fertilizer
Corn received 139 lbs nitrogen at planting, 2nd year corn had extra 50 lbs stream barred
All plot received 48.5 lbs P., 28.8 lbs 2 x 2, 19.7 lbs infurrow , both as 10-34 and 1 pint zinc chelate infurrow
Winter Wheat at planting 78 lbs 11-52-0, 2 spring stream bar apps, 1rst 100 lbs 5/9, 2nd at 60 lbs 6/3.
Spring Wheat at planting 65 lbs 11-52-0, 2 stream bar app one at 1rst 62 lbs. 6/3. 2nd at 60 on 6/12 lbs.
Flax 50 lbs n stream bar

Figure 6. Crop Inputs and timing.

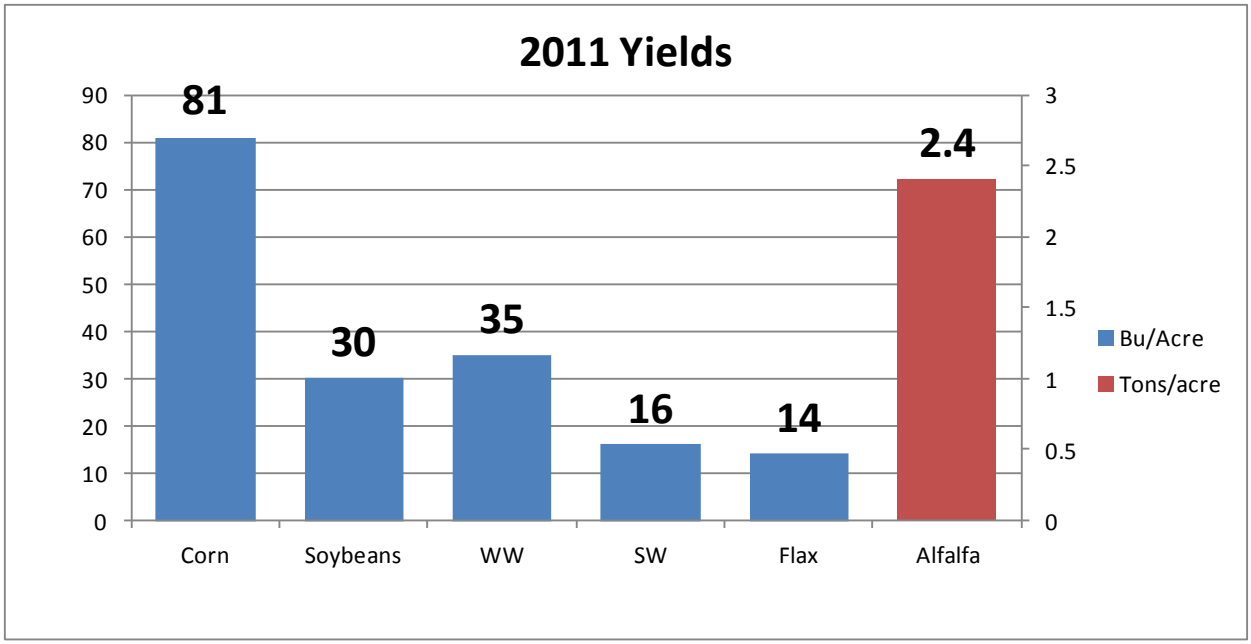

Figure 7. Crop yield averaged across all rotations at the Conservation Cropping Systems Project in 2011.

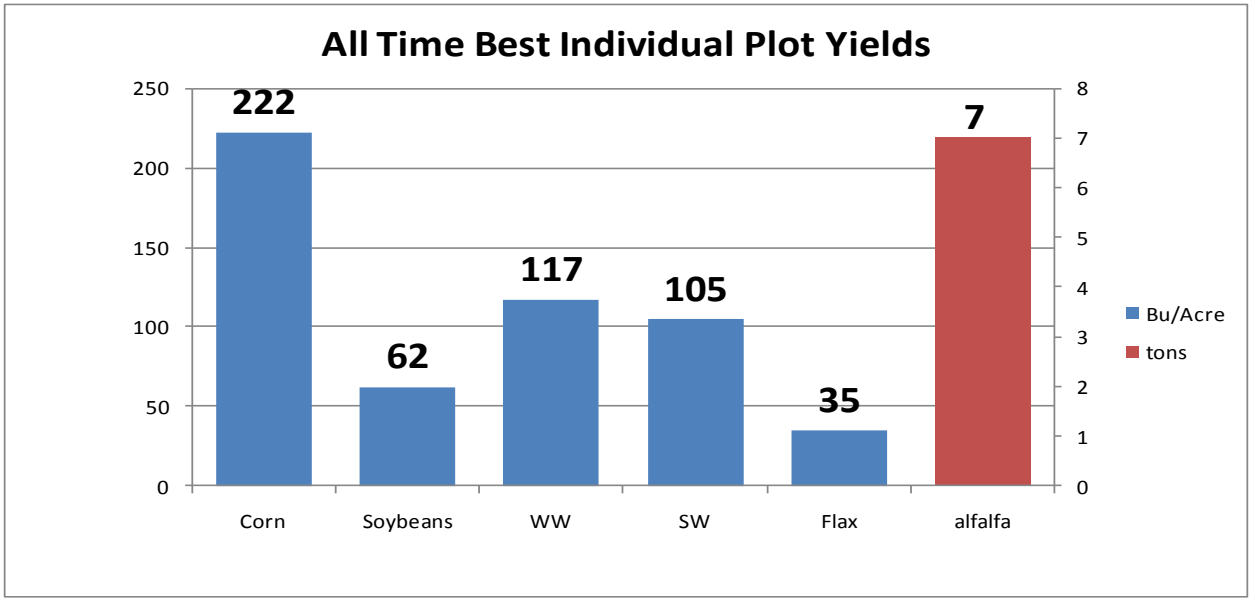

Figure 8. Best individual plot yields to date.

Crop observations

For rotation key see figure 2 on page 6.

All crops were severely affected by hail, high winds and heavy rains as discussed in the weather section.

Wheat

Matlock winter wheat, a WestBred variety, was planted on all plots. All plots except the KH rotation were planted September 17-20th 2010. The KH rotation was set up to look at planting winter wheat following early maturing soybeans. The KH rotation plots were planted September 22, immediately after harvesting the soybeans. Matlock is a new variety, just receiving a name in 2010. We had previously planted this variety on the soybean plots and it has shown good winter hardiness. Some winter kill did occur 3 years ago. The fall of 2010 was warm, and the corn matured early. With the corn husks dry, wheat curl mites are gone, which allowed us to plant winter wheat on time. Wheat curl mites can infect winter wheat with a disease called wheat streak mosaic. October was warm and allowed good growth of the winter wheat. Snow came rapidly after a brief spell of cold weather and gave good winter cover. Continued wetness in the spring was not good for plant health. Cool temperatures delayed growth, and then warm temperatures came that were especially high at night which reduced yields. The best yielding rotations were KH and J, where winter wheat was planted on soybeans and flax ground respectively. Yellow headed blackbirds continue to be a problem as the wheat enters soft dough at the same time the young blackbirds are first leaving their nests.

In 2011, Extension Agronomist, Joel Ransom, and his crew, conducted variety by fungicide trials with spring and winter wheat. Both trials consisted of 20 varieties with or without fungicides. The fungicide treatment consisted of a half rate of Stratego at the 4 leaf stage followed by a full rate of Prosaro at early flower. Averaged over all winter wheat varieties, the fungicide treatment increased yield from 31.9 bu/a to 41.4 bu/a. The highest yielding varieties with fungicide were Overland, Ideal and Lyman. The fungicide treatment also reduced vomitoxin (DON) levels from an average of 6.0 ppm to 1.9 ppm in this winter wheat trial. Yield of the spring wheat was low due to excessive moisture during the growing season and fungicides were only marginally effective (the average yield of spring wheat with fungicide was 15.0 and without 13.1 bu/a). Because flowering in the spring wheat varieties occurred later in the season when disease pressure was less, there was no significant DON in the spring wheat trial regardless of fungicide treatment. In addition to a winter wheat variety by fungicide trial, an experiment comparing opener type (double disk verses hoe opener) on winter survival of winter wheat were established this fall.

Another NDSU project at the CCSP farm involves Dr. Larry Cihacek. Dr. Cihacek is evaluating several of the crop rotations with regard to their effects on soil quality and greenhouse gas emissions.

Brick spring wheat was planted May 6-17th 2011. As I have observed before, getting across no-till ground that was previously soybeans harvested with a good and properly adjusted residue spreading system is no problem even in very wet conditions. Again this year I pushed things too far as the calendar gave little options. Dual tracks were clearly evident for quite some time after the crop emerged. Weed control with Wolverine did a good job in both the winter and spring wheat. An early season application of Stratego along with an early anthesis application of Prosaro provided some control of foliar diseases and reduced head scab severity, but this was a tough year for wheat.

Winter wheat and spring wheat both fared poorly this year, J and KH rotations respectively, were better, than the others rotations with 44.8 and 44.9 bu/acre. Spring wheat yields were far worse averaging only 16.

Flax

Planting was done late on May 26. Yields were poor in spite of the flax coming through the hail and wind with little damage. Yields were less than 15 bushels. Weed control was 6 oz of Callisto which caused some damage. Weed control was good but I will go to a reduced rate next year. An application of Select Max was used for control of late grasses. NDSU has shown applications of headline increases yield and we will try that next year.

Corn

Corn planting was delayed by heavy snow melt, cold temps and rain. Soil temperatures were not an issue by the time fields dried out. Planting did go very smooth once started. Emergence was good but continuing rains caused problems and some replanting was done where corn drowned out. More rains came which caused more drown out and then on July 10th, a storm with high winds and hail did major damage. Green snap was anywhere from 10-80% with moderate hail damage. Weed control was good with the use of Laudis, atrazine, and Roundup. Corn on Alfalfa plots received an early post emergence application of a ½ pint of Clarity to control alfalfa surviving the fall kill down.

Our experiment with bio-strip till was continued. In 2010 results were promising. However in 2011 there appeared to be a lot of seed rot. A radish variety that bolted(went to seed) was mistakenly planted in the fall of 2010 and it is my suspicion this may have been the problem. Corn of the same variety planted directly into wheat stubble fared much better. We are continuing with the trial and planted a non-bolting radish this fall.

The strip till /variety trial was continued and although heavily damaged, the damage was more uniform do to late planting and less green snap. The trend of a 7 bu response to strip till was still observed. Also, there were differences in response to strip till according to variety as indicated in previous years. Of all work done at this farm, I feel this is some of the most important and should be taken into account when selecting corn for your farm.

Soybeans

Soybeans were quickly planted as soon as conditions allowed. Croplan R2T0860 was seeded in the majority of the plots with NK S00-J9 and NK S00-W3 seeded in the early harvest plots. The early harvest plots were taken off with a straight head so there was considerable header loss. Our focus at this point is to see how winter wheat will work on the soybean ground and without having our own flex head we use our straight head to get the beans off as soon as possible. All seed was treated and inoculated. The beans again had wet feet this year and suffered for the first month. The July storm damaged the beans but they recovered and lost only 1/3 of their expected yield. I have to make note of the aphids this year. I have never observed such a rapid explosion of any insect in my whole career. Local field scouts said they had to check fields every 2 days. I checked the plots on a Thursday and found only small numbers. By Sunday they were way above thresholds. I sprayed immediately. Weed control was good with a pre application of Valor and Roundup and 2 shots of post Roundup. Soybean cyst nematodes have been confirmed in Sargent County but I have not seen them on the farm. Experts say it is far easier to keep a low population low then to bring a high population down. Work goes on in breeding and chemistry, but this is a problem we are going to have to deal with.

Alfalfa

Dairyland Magnum V “Wet” was seeded the last 2 years into our alfalfa plots. High moisture and good snow cover got the crop through winter and off to a good start, but lack of early season temperatures, late cutting, and delayed baling, reduced yield. Alfalfa continues to be a specialty crop. It is tough to make hay when it rains all the time. I have read that in wetter climates, you just have to prepare to make silage out of alfalfa to keep a cutting schedule or yield losses will be too much. Alfalfa is also the highest moisture using crop and would make an excellent choice in prevent plant acres to pull out deep soil moisture. Work is being done to breed alfalfa varieties that hold up better in wet conditions and would be a great help to prevent salinity build up in susceptible soils.

Cover Crops

Our bio-strip trial continued this year with enthusiasm after last year’s positive results. As mentioned in the corn discussion there appeared to be a negative reaction to the bolted radishes. We have planted 6 plots of radish and peas that will be similar to the plots planted in the fall of 2009 as seen above. This year the drier fall resulted in less growth than 2009, but both pea and radish did grow. We planted 3 plot replication as we did in 2009 with the 7200 planter and another 3 plot replication with the 1590 disk drill. Both planting have peas and radishes on 30 inch centers, with 15 inches from radish row to pea row. We made adjustments to the 1590 that planted the peas deep and the radish shallow. We also plugged holes in the drill that would allow proper spacing and utilized both the seed box and fertilizer box.

Bio-strip till 10/2/2009

We conducted a trademark named radish demonstration this year. We took 8 different named radishes and placed each name in 1 of 8 rows of our 8 row 7200 planter. Starting the first week in July we made 2 passes each week of July. Our goal was to look at growth and bolting according to planting date. Weed competition, mostly pigweed, was severe on the first 3 plantings even with Roundup application made just before planting. The plots were on the main alley next to highway 11 where crops are not routinely grown. Weed control choices after the radish come up are very limited for broad leafs. Growth of radish is slow until temperatures get lower. By early October, there appeared to be better growth in the late plantings than in the early. Rain was limited in late August and September, which along with the weed pressure may have been a factor in limiting growth in the early planting. Previous observations have indicated that radish and other similar cool season broad leafs do not grow rapidly in the heat of summer. Two of the named radish had a small amount of bolting in the first 2 planting, otherwise bolting was rare.

Cover crops can be simple or complex. Most growers have come to understand how important it is to keep something growing on their fields even if the intended crop drowned out or could not be planted. Salinity and water issues have just gotten worse and worse. With prevent plant going away, tough choices need to be made. I fully expect that we will get dry again. It may already be happening. Cover crops although somewhat less effective are far cheaper than installing an irrigator and tile drainage. Cover crops are still a good option with tiling, because the organic matter of the soil can still be increased resulting in higher water holding capacity.

I have kept some of these graphs we had in last year's report because of the hail and wind damage in 2011.

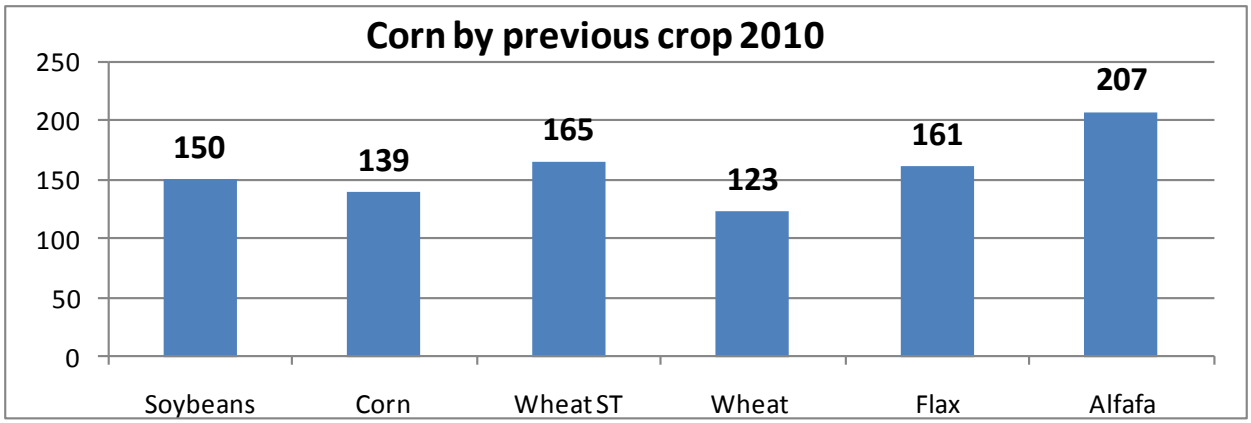

Figure 10.

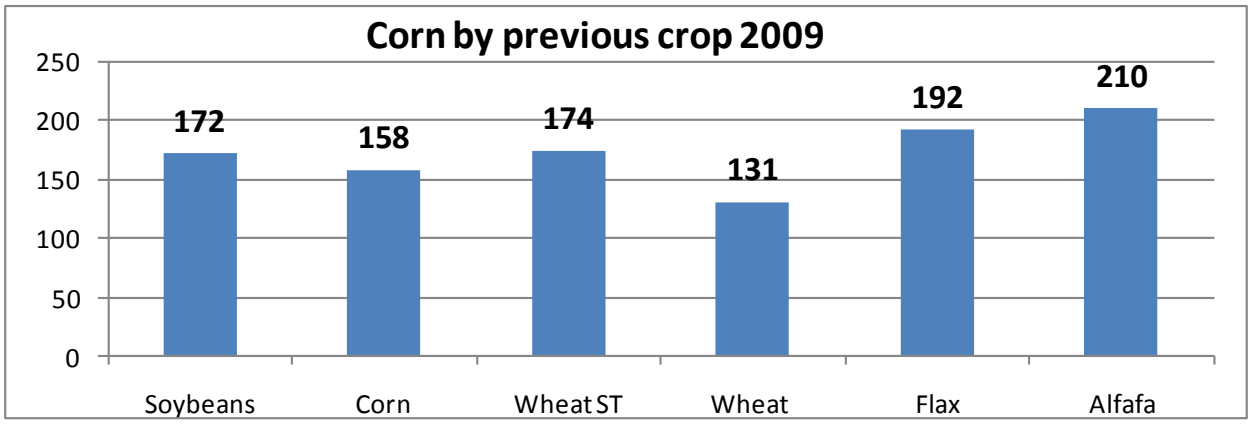

Figure 11.

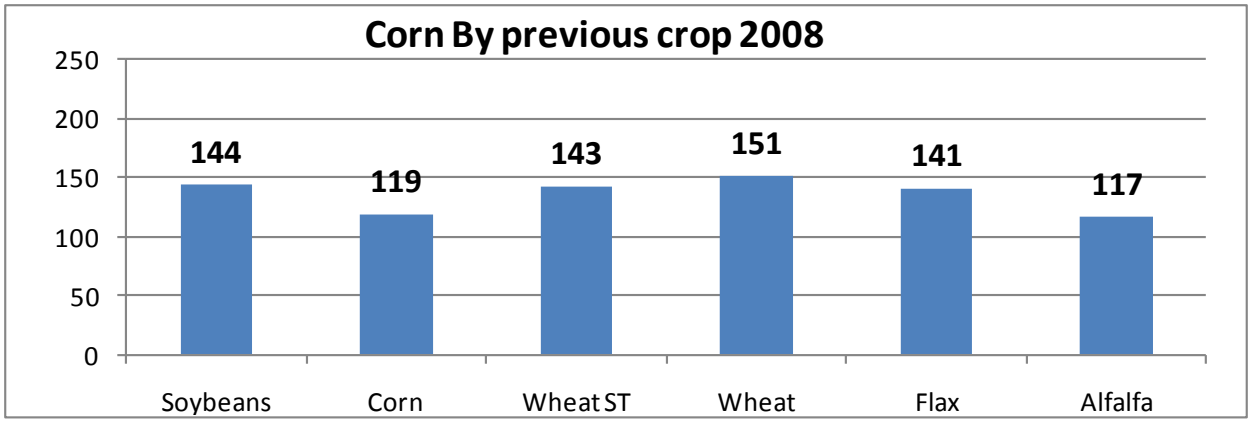

Figure 12.

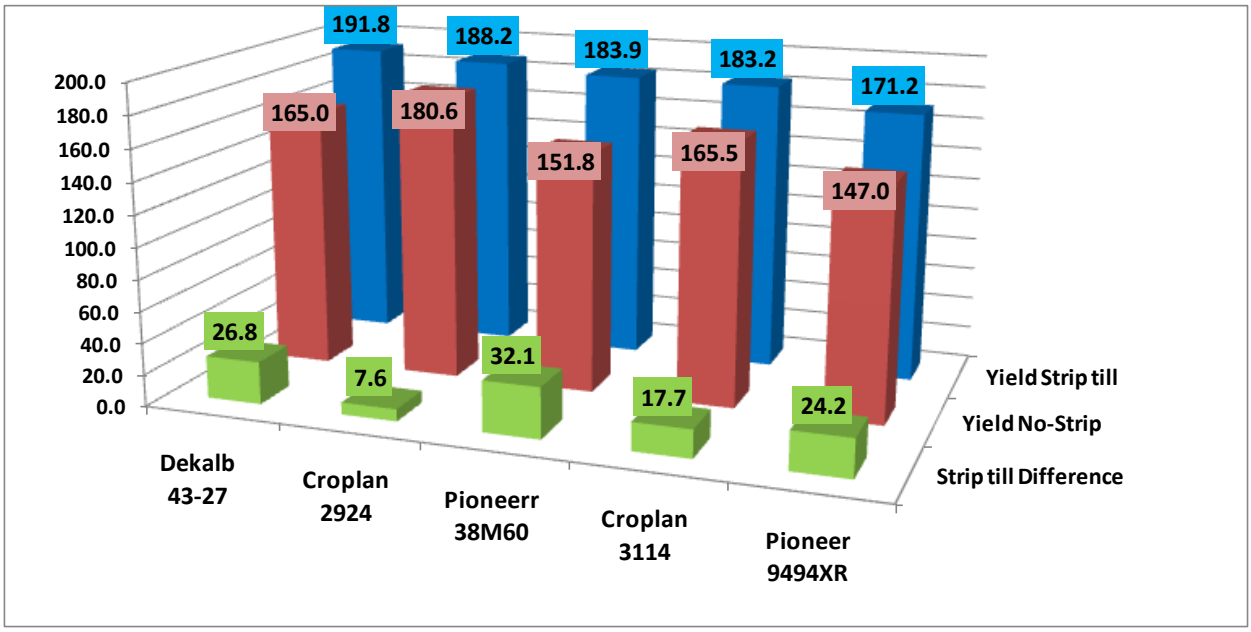

Figure 13. 2009 Strip Till and Variety
Previous crop was soybeans

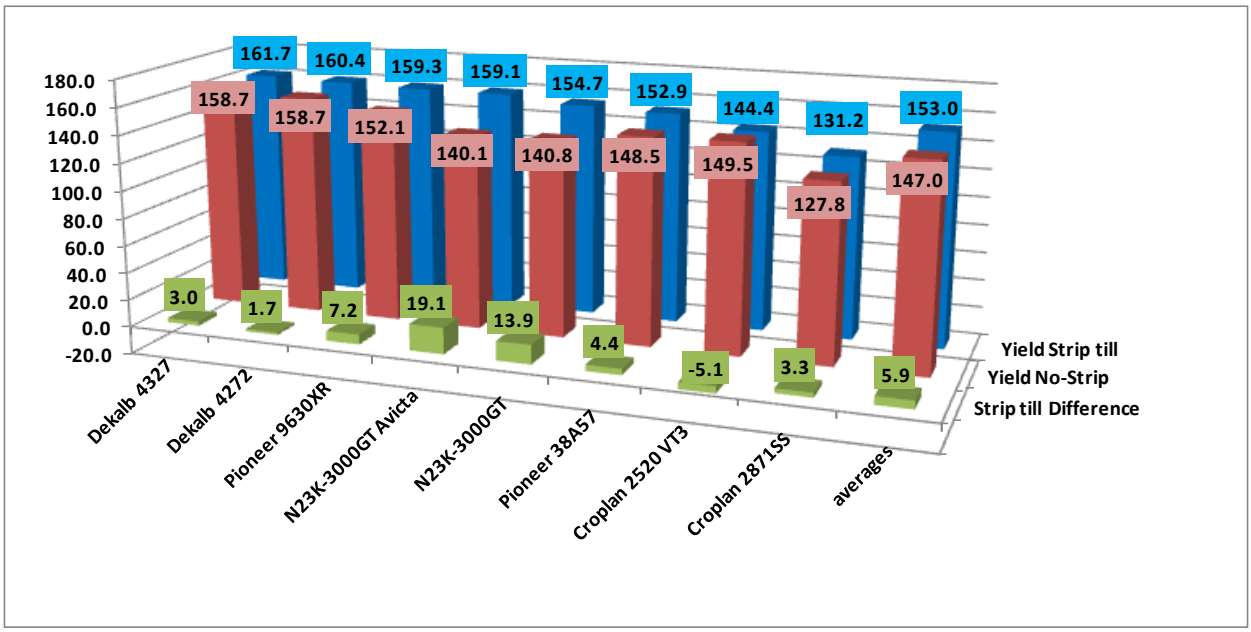

Figure 14. 2010 Strip till and Variety
Previous crop was soybeans

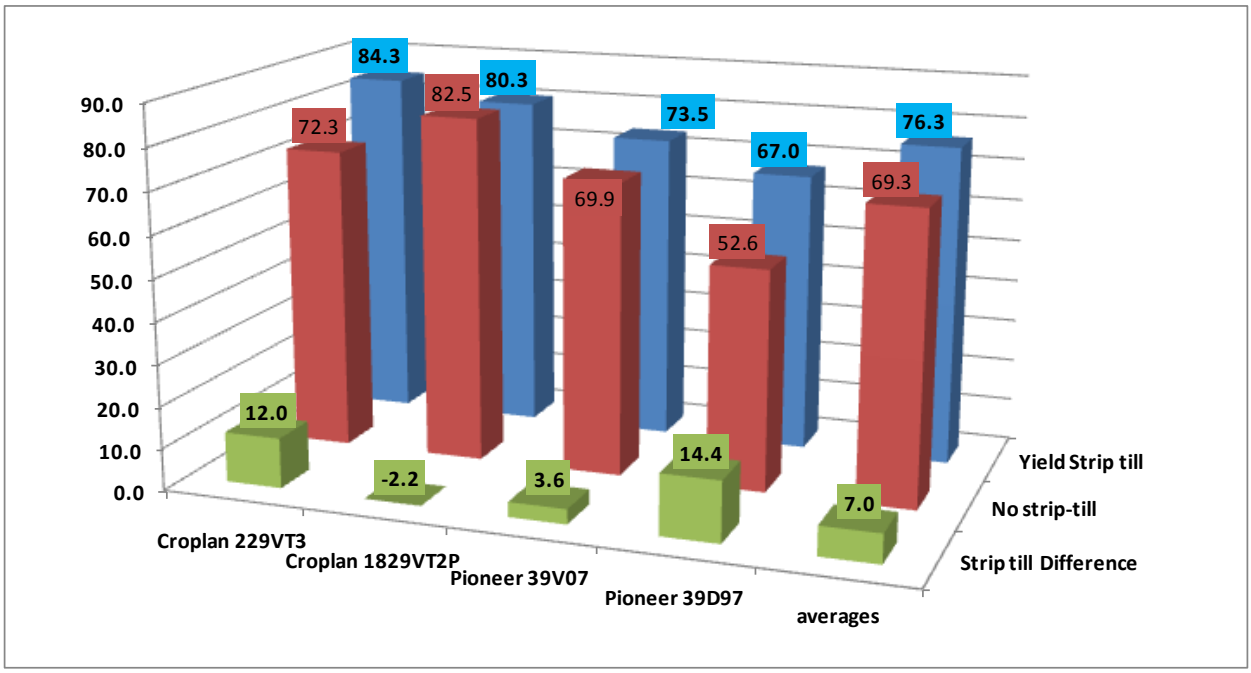

Figure 15. 2011 Strip Till and Variety
Relatively uniform heavy hail and wind damage.
Previous crop soybeans.

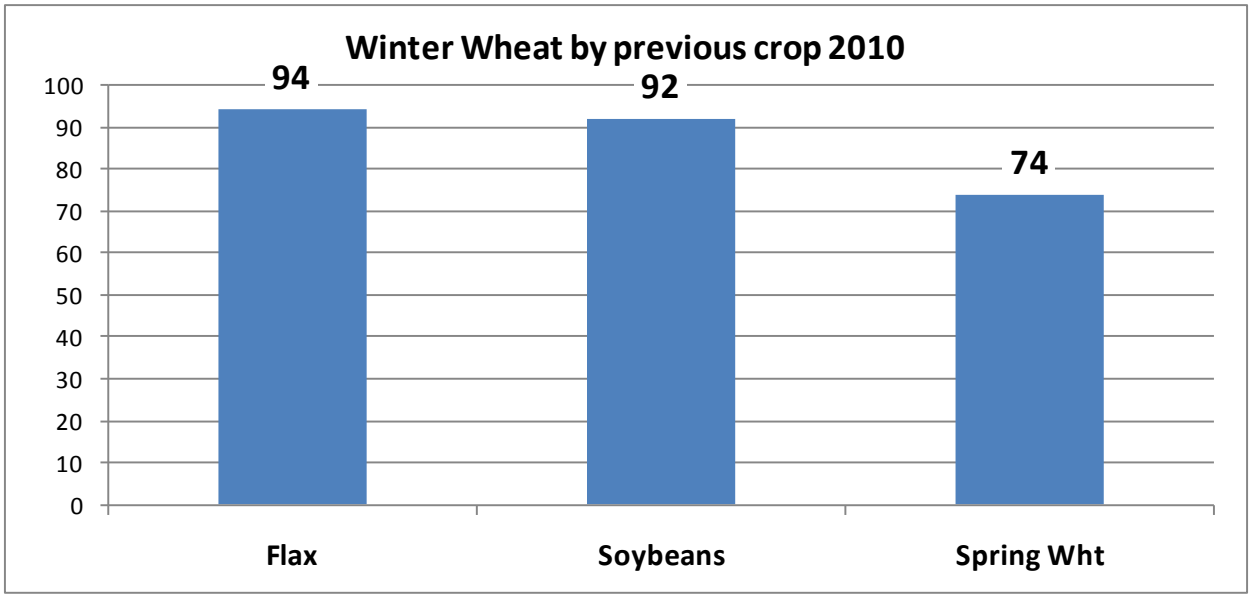

Figure 16.

A copy of all our annual reports, more detailed yield graphs and tables, periodic crop updates and comments can be found on our website, www.notillfarm.org.

Education

Our goal at CCSP is to promote conservation practices that are economically feasible for producers to utilize. We presented at 5 meetings last winter talking about the activities of our farm. It is a wonderful opportunity to share information. Our summer field day happened to be just after the large hail, wind and rain event, but we persevered and with a little modification pulled the people movers through the mud. Jay Fuhrer gave a great talk on the role cover crops have in crop production and soil health. Hal Weiser, clad in knee high boots did his usual excellent job in the soil pit discussing the nature and properties of soils. Mick Kjar Broadcasted from the event once again with interviews of experts in no-till and

conservation farming. The day ended with delicious meal compliments of Titan Machinery and Amity Technologies.

We hosted a tour for the Production Ag class from North Dakota State School of Science at Wahpeton again this fall. We brought in Lee Briese to talk to the students about salinity and general soils related production issues. Lee has a master's in soil science specializing in salinity and is a regular speaker at our events. CCSP was also a tour stop for the Wild Rice Soil Conservation District's cover crop tour in the fall where we talked about out trademark radish variety trial.

Final comments from the Farm Manager.

I can never say enough to thank our sponsors for keeping this project going. The future thanks you! It is so easy to think that things won't change. Will there always be good prices, plenty of rain, new weed control chemicals, new fungicides? Sorry, that's not part of the plan. We need to stay sharp, be good managers, and leave a worthwhile legacy for the next generation. Healthy productive soil will not be a luxury in the future, it will be a requirement. Even with high prices, a speaker at one of the winter meetings stated that poor land is never a bargain, and good land pays even at premium prices. Unfortunately the future does not pay the past to do good things. How often have you thought that if just a small initiative had been taken by yourself, or your ancestors, to buy land

when it was cheap, put up bins before they were really needed, take that trip with the kids when young, what a difference it would have made. We all have that chance every day. Keeping soil from washing down the creek or blowing away is a decision made by many farmers as a daily commitment to themselves and the next person to farm their land. Good land does not stay good by chance. Texture, organic matter, and drainage are not the only qualifiers of good land anymore. A comment stressed by a nematologist repeatedly during his talk was "it is easier to keep low numbers low than bring high numbers down" was referring to soybean cyst nematodes. Many of these issues are a community problem. It does not do much good to manage Roundup resistance unless your neighbor does. It does not take long for weed seeds or insects to travel into the next field. Another common thread circulating through agriculture is we need to be much more aware of how we are perceived by the general public. We tend to be independent people who just want to be left alone to do our jobs. But then we kinda like subsidized federal crop insurance. We like federal highway dollars to keep our roads up. We like the federal grants that update our rural telephone cooperatives. Like most other games, you can't win unless you get on the field and play. The general public has been scared to death, driven mad, and told they are being poisoned by groups who are doing nothing more than using emotional ploys to get noticed. Sounds like politics? You bet, and if you don't fight, you will get run over. Unfortunately poor stewardship brings more regulations, and I think we have enough of them already. However, when I go to a restaurant, I really hope the cooking oil is not recycled out of a Chinese sewer. I hope the inspector has done his or her job because I really don't want to go prowl around in the kitchen and do an inspection for myself.

I have heard so much optimism about the future of farming I can't stand it anymore. Most of us and our forefathers have our roots buried deep in struggles, hard times, wars, starvation, plagues, and just plain bad luck. We can still wallow in the flooding and wet weather, but even that appears to be reversing. When Mark Pearson declared $10,000 dollar an acre land (Iowa) makes sense because you can rent it out for $300-$500 an acre, while speaking at the Soybean convention in Fargo this spring… well somebody needs to convince me that I am not hallucinating. In 1976, just before going off to college, my Dad really got me upset by talking about how much the optimism in farming appeared like the 1920's. By 1982, when prices had collapsed and farmers were hopelessly deep in debt, it became apparent he was right. In the summer of 1996 Orion Samuelson said the high prices were here to stay, by fall corn was back down to $2.15 and it stayed down for 10 years. But this time it's different. Well it's always different. A Wells Fargo ag expert says that any system with a feedback loop is inherently unstable. Supply and demand are supposed to work together to achieve balance. The balance however is between the swings of a pendulum. Stay sharp my friends, and enjoy the ride!