



# Prairie Steward

## Farming For Your Future Environment



The Newsletter of the Saskatchewan Soil Conservation Association Inc.

Summer Issue No. 42, 2004

## Seeding Trends 2004: Ten Years of Success

By Rich Szwydky, PAg  
Conservation Agrologist

On June 2, 2004, approximately 350 people attended Saskatchewan's only direct seeding field day held at the historical Seager Wheeler farm east of Rosthern. This year's event marked the 10 year anniversary for Seeding Trends, featuring a more diverse agenda while

continuing to showcase direct seeding and sprayer technology. The large crowd came from all four corners of the province to take in the annual event.

The theme of this year's agenda was "Direct Seeding - 10 years of Showcasing Success". Organizers of past and present field days believe their efforts towards staging the late spring

event have contributed to the increasing adoption rate of direct seeding in the province. They also believe significant acres in the province still require conversion to a low disturbance one-

Weisbrot, Range and Forage agrologist with SAFRR. Trevor Herzog of Monsanto Canada also gave a presentation on corn production in Saskatchewan. The final presentation of the



Producers inspect seed depth and field finish after each drill makes one seeding pass.

In This Issue	
SF - Where is the Advantage?	p. 4
New Residue Management Tool Now Available	p. 6
The Patch	p. 7
Using Crop Residues to Feed Livestock	p. 8
Cows Munching Crop Residue	p. 9
More Uses for Forages	p. 10
PERRL	p. 12
Variable Rate Technology	p. 13
Busy Season for CLC	p. 14
New Director for NW	p. 16

pass system. The topics addressed at Seeding Trends included fertility, rotations, forages, herbicide residues, and insect updates, as well as opener and equipment considerations.

The morning agenda for Seeding Trends participants included a choice of attending one of two concurrent sessions. The first session focused on forage seeding and production. It featured presentations on fertilizing forages by Dr. Jeff Schoenau, professor at the University of Saskatchewan, and annual C4 forage production by Dale

session took place in the field, and focused on the do's and don'ts for successful direct seeding of forages. Various topics were discussed, including drill calibration, seeding depth, seeding rate, and packing.

The second session began with a producer panel that featured three producers experienced in direct seeding. Dean York of Tisdale, Jim Flath of Rosthern, and Tom Mathieson of Watson shared their experiences and described the changes that occurred on

**CONTINUED PAGE 3**

# What's New for 2004

By Blair McClinton, PAg  
SSCA Executive Manager

It has been another "interesting" and stressful spring in Saskatchewan. As was the case in the past few years, there were "near" drought conditions in central and northern Saskatchewan and excessive moisture in many parts of the south. On top of this, the province made major cuts to their agriculture field services with the closure of 22 Rural Service Centres. The new Ag Knowledge Centre, that is intended to replace the extension service, will become fully operational over the summer. While similar systems are being used in other provinces with mixed reviews, only time will tell how effective this service will be in Saskatchewan.

While the provincial budget does not directly affect SSCA, we did lose one of our offices when the Rural Service Centre in Lloydminster closed. Since we have an agreement with Saskatchewan Agriculture, Food and Rural Revitalization (SAFRR) for office space, we requested (and expected) that the northwest regional office be relocated back into North Battleford Agriculture Business Centre. However, SAFRR officials have delayed making any

decision on this request and as of June 10, we still have no office in the northwest region. As a result, Tim Nerbas is temporarily working out of his home.

As I mentioned in the last Prairie Steward, funding continues to be a major problem for SSCA. To deal with the situation, we decided to reduce our staffing by two positions. One staff position was cut in March when Travis Goebel, former EC region agrologist, left to work for BASF in Swift Current. The East Central region is now being covered by SSCA Assistant Manager, Juanita Polegi. A second position will be cut at the end of August. Currently, Southeast agrologist, David Larsen is under contract only until August 31. After this time, the remaining field staff will readjust their work to cover off for this vacancy.

On a positive note, SSCA will be involved in a couple of Greencover Technical Assistance projects over the next few years. Both projects will focus on forage production in riparian areas (areas next to water). The project in northeast Saskatchewan is in partnership with the Saskatchewan Conservation Learning Centre and Saskatchewan Watershed Authority. In the Redvers

area, the project there is being led by the Saskatchewan Watershed Authority. We had hoped to have some other demos on forage establishment and forage fertility techniques but our proposals were not successful. The Greencover Committee did not consider establishment and fertility management to be very important even though both issues were identified as important gaps by stakeholders at both regional and provincial meetings.

The Environmental Farm Plan (EFP) initiative through APF is expected roll-out over the next few months. Watch for workshops in your area. Where EFPs are already in place, farmers who have gone through the process found it to be an excellent learning process. Soil conservation will be an important aspect of all farm plans and the SSCA wants to play an important role in helping Saskatchewan producers through the planning and implementation process.

Good luck with the rest of your summer and have a good harvest! ●



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# President's Message

By Darryl Reynolds  
SSCA President

As I sit down to write my first President's report, the first week of June has passed and we have just had a good general rain across the province. The crop is in, although late, and spray season is upon us. Parts of the province are wet and others dry, but generally we are off to a better start than the past few years. Environment Canada tells us it was a warm May, but they definitely weren't on our farm where the winter clothing didn't get put away till the last week of May. The federal election is off and running and for a change it looks like it will be a race to the finish with the results far from certain at this point in time.

Since taking over the president's position in February, I traveled to Ottawa along with John Bennett (our carbon trade issue champion) to make a presentation to the Liberal Ag. Caucus. Our past president, John Clair, arranged the meeting. We also had the SCCC (Soil Conservation Council of Canada) president, Steve Broad and APAS (Ag. Producers of Sask.) President, Terry Hildebrant attend and participate. As was expected, the Liberal Ag. Caucus is primarily made up of Ontario and Quebec rural MP's and we had about half a dozen stay and listen attentively. VanClief left shortly before our presentation (some things never change) to attend to other business.

John B. made his presentation to outline the importance of carbon sinks to Sask. producers and the importance that

the ownership of these stay with the farmers who created them and must maintain them into the future. There was a lot of nodding of heads and some well thought-out questions at the end of the presentation, but I couldn't help wondering how MP's from Ont/PQ with \$5.50 wheat/\$10.50 soybeans and \$28,000 per cow milk quotas could relate to the problems and concerns of a bunch of prairie farmers where the reality is so different from their own.

Following this meeting we had a brief encounter with the Environment Minister, David Anderson in the hallway, when John B. boldly introduced himself. I actually heard Mr. Anderson state the words "money for farmers" when discussing the importance of soil sinks to Sask. Producers.

We went on to meet with bureaucrats in both the Dept. of Agriculture and Dept. of Environment. Much of the discussion was about the PERRL initiative (discussed further by John B.). We stressed our dislike of the two-pool carbon proposal, which would penalize longer-term direct seeders and reward the late-adaptors by placing different values on the sequestered carbon. We have been adamant that all sequestered carbon should be treated the same and all value remain with the farmer/landowner. Saskatchewan has nearly half the arable land in Canada, and we cannot underestimate our value to Canada in meeting its obligations under Kyoto.

We continue to have funding challenges that are affecting our staffing and activities. Both private and public funds have become more difficult to source. In

response, we have established a committee to explore alternative sources of funding in an attempt to stabilize our future. Blair McClinton



continues to provide strong leadership as our General Manager and I have confidence he is working for the best interests of both our membership and staff. Our award-winning team of agrologists is one of the best in the business and we should be proud of their accomplishments in furthering our cause to pursue conservation practices. So as members, I would encourage you to attend a field day, utilize the resources of our agrologists, visit our website, attend our conference in February and keep your membership current.

There are days when one questions why he would take on the extra activities involved with this Association. The plate is already full and the phone rings about issues that arise. But I think back to my (misspent?) youth when a wise old farmer from the Lanigan-Esk-Jansen area by the name of Albert Wildeman stood close, looked up at me from under the brim of his hat, while poking me on the chest with a farmer's sausage finger, and said with a slight German accent, "Darryl, you always remember, that if you look after the land, the land will look after you!" And for whatever reason, that advice stuck. Maybe by taking on this role, I am answering his challenge. ●

## SEEDING TRENDS 2004 ... CONTINUED FROM PAGE 1

their respective farms with the initiation of direct seeding. The three producers agreed that the switch to direct seeding changed their management style towards their farm, quoting that trash management, weed control, fertilizer placement, opener selection and crop rotations needed to be addressed to ensure success in their operations. York also stated his transition into direct seeding involved some trial and error. "When mistakes are made, you

learn from them and move on", he said.

Following the producer panel, SAFRR insect specialist Scott Hartley presented the crowd with an insect update, and Ken Sapsford of the University of Saskatchewan's Plant Sciences department gave a timely presentation on herbicide carryover and stacking.

The afternoon agenda began with a bio-diesel demonstration. Roy Button of the Canola Council gave a short

presentation on the use of canola oil in diesel fuel. Button said adding canola oil to diesel fuel will help increase engine life and reduce emissions of greenhouse gases into the atmosphere.

An SSCA demonstration on variable rate nitrogen application was the next agenda item. This demonstration showcased GreenSeeker®, a variable rate nitrogen application technology that recently hit the western Canadian market. For more information, please

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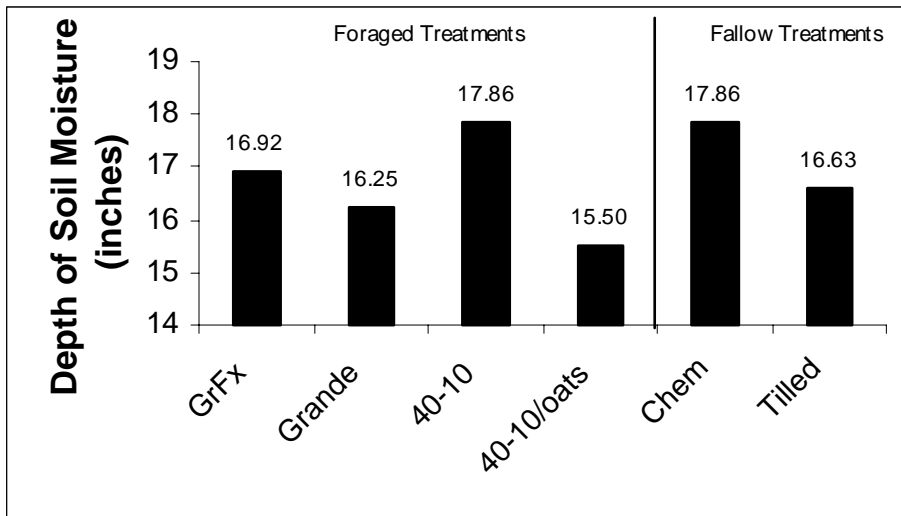
# Summerfallow - Where is the Advantage?

By Eric Oliver, PAg  
Conservation Agrologist

In preparation to seed the Annual Legumes for Forage or Greenfallow plots at Aneroid, SK, I took a series of depth of soil moisture probes in each plot and for all three replications and found some-

differences in yield or protein between an annual legume taken off for forage at an early date and allowing it to remain fallow for the rest of the year, to that of chem fallow and tilled fallow. The other treatment being evaluated was desiccating the annual legumes at flowering stage, then leaving the field as fallow and

summerfallow did not appear to have a greater depth of stored soil moisture, as one would expect. In addition, I noticed the soil surface of the tilled fallow was very hard and crusty, unlike the soil in most of the other stubble treatments, which was much more mellow. Once the numbers were crunched, my early assumptions were correct.



**Figure 1: Depth of soil moisture in inches on treatments with annual legumes that were foraged July 12, 2003 and chem fallow and tilled fallow treatments. Annual Legumes for Forage or Greenfallow Study, Aneroid, SK, 2004.**

thing surprising in the summerfallow plots. This will be the fourth year of the study that looks at comparing chem fallow and tilled fallow to three annual legumes (AC Greenfix - a chickling vetch, Grande peas and 40-10 silage peas) and a 40-10/oat mix that will be foraged. In another set of treatments, the same three annual legumes are desiccated and left as a nitrogen source as greenfallow. These treatments are seeded to wheat the following year and the yields and protein contents are compared.

One of the few disadvantages of wheat seeded onto chem fallow has been that in average to excellent moisture years, the protein content of the wheat often is lower than wheat seeded onto a pulse crop stubble. Many farmers in the southwest still want a certain amount of land in fallow for risk management. We are trying to see if there are any

having all of the nitrogen fixed by the legumes remaining in the soil.

So what has all this to do with summerfallow? Well one of the comparisons of this study is a 50/50 rotation of tilled fallow and wheat. What was surprising to me as I was doing the soil moisture probes, was that it seemed the

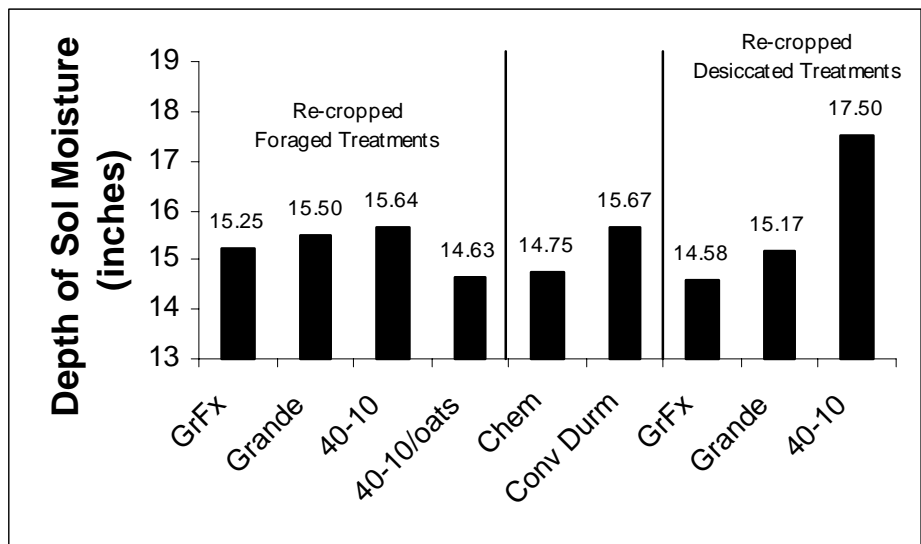
Figure 1 shows that the chem fallow stored more moisture than the tilled fallow treatments which is not all that surprising since the chem fallow has stubble to trap snow and reduce evaporation. Interestingly, with the exception of the 40-10/oat mixture, the annual legumes that were foraged around July 12 had as much or more stored soil moisture than the tilled fallow treatment. This practice has an advantage in that it produces a forage crop for the producer but the remainder of the year is essentially fallow. Over the 2003-04 winter, there did not seem to be any penalty in stored moisture to the foraging practice compared to tilled summerfallow. However, only the 40-10 silage peas were comparable to the stored moisture in the chem fallow treatments. Although about 75% of the total nitrogen that the legume plant has fixed is in the top growth, there still is 25% in the roots which can be

available to the cereal crop the following year. The following cereal crop would therefore benefit from the rotational and nitrogen benefits of the legume crop.

Although there wasn't a big difference between the stored moisture of most of the cereal re-crop treatments, there was one treatment that stood out significantly higher than the others (Figure 2). Durum re-cropped on the 40-10 stubble that had been desiccated and left as greenfallow the previous year had as much stored soil mois-



**Hard, dry, and crusted soil surface of the tilled fallow treatment in spring of 2004.**



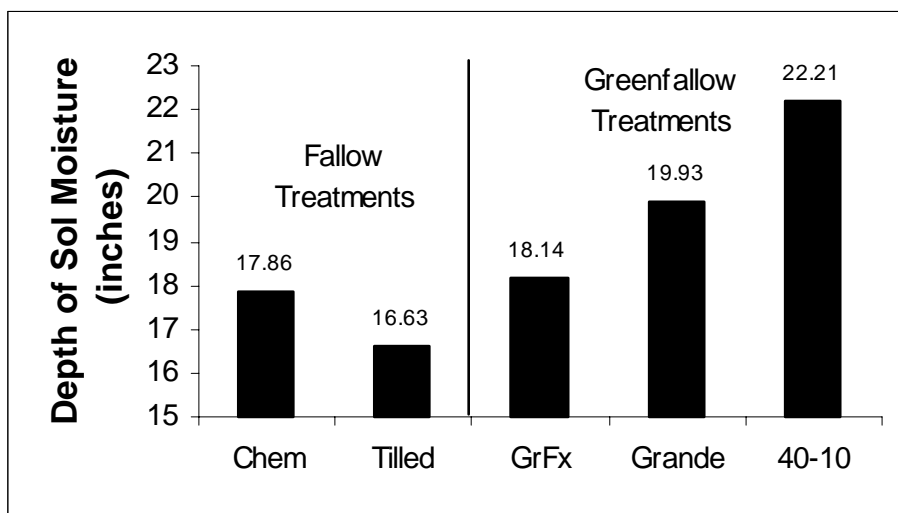
**Figure 2: Depth of soil moisture in inches on durum re-crop seeded on various stubbles that include re-crop on chem fallow and tilled fallow (conventional durum). Annual Legumes for Forage or Greenfallow Study, Aneroid, SK, 2004.**

ture as the 40-10 stubble that had been foraged and left for fallow! In addition, Figure 3 shows that the annual legumes desiccated in 2003 and left for greenfallow had much more stored soil moisture than the summerfallow and generally higher than even the chem fallow in the spring of 2004! The reason the desiccated greenfallow treatments stored more moisture than the chem fallow treatments can likely be attributed to a fairly dense cover of residue as all the top growth was left on top of the soil. This would greatly reduce evaporation from the soil and also trap snow.

So why would the summerfallow have so little stored soil moisture as compared to some of these other treatments? Well it likely has a lot to do with the year we had. Although there was excellent soil moisture in the spring of 2003, the summer was very hot and dry with essentially no rain after the middle of June. Every time the summerfallow was tilled, it lost soil moisture and organic matter. In addition, there was no stubble to protect the soil from the hot, dry winds. The soil developed a hard crust on it. Even with all the snow we had during the winter that kept the soil surface mostly covered, the hard, crusty soil likely didn't allow nearly as much infiltration of moisture as the other treatments that had stubble. Just by walking over the various treatments, I could tell that anything with stubble had a more

mellow soil than the tilled summerfallow treatments.

The question then arises "why do some producers continue this practice of using tillage for fallow?" Granted there are years where there is little difference between chem fallow and tilled summerfallow.



**Figure 3: Depth of soil moisture in inches on fallow treatments (chem fallow and tilled fallow) and annual legumes desiccated in 2003 for greenfallow. Annual Legumes for Forage or Greenfallow Study, Aneroid, SK, 2004.**

However, if it can't store more moisture than chem fallow or some other alternative practice in a drought year, the question keeps coming back - "Why do we continue to do it"? While the amount of tilled fallow has dramatically decreased over the last 10 or more years due to the

adoption of direct seeding and increased use of chem fallow, there are still many summerfallow acres out there. Cost of chem fallow is often thrown out as a major reason to not use that practice instead of tillage. However, in most cases, it is more expensive to till than to spray for the weeds. The cost of glyphosate has become significantly lower in the past few years while the cost of diesel fuel has dramatically increased. In addition, most producers who till don't consider all the costs that are attributed to tilling. It's not just the cost of some diesel fuel and sweeps. The real cost of tillage is more like \$5/ac per operation. And how much value do you put on soil that erodes away or the moisture you lose from each tillage operation?

The study at Aneroid shows many advantages in terms of re-crop yield and quality and also stored soil moisture when using an annual legume for greenfallow (that is, spraying it out at flowering). However, realistically, most farmers who are not in an organic farming system simply cannot bring themselves to spray out a perfectly good pea crop for greenfallow. They want to either take that

pea crop to harvest or use it for livestock feed. Although there is not nearly as much nitrogen left in the soil from the annual legumes after the top growth is removed for forage, it does offer the producer another option to tilled summerfallow. ●

# New Residue Management Tool Now Available

By Garry Mayerle, PAg  
Conservation Agrologist

SSCA has always maintained that residue management is crucial to making direct seeding work. We have said many times to producers switching to direct seeding that, if they haven't done a good job of residue management, they should consider delaying changing seeding practices. Les McGrath of the McGrath family farm agrees. He says that straw and chaff management "is where it all starts" for direct seeding.

Now Redekop Manufacturing Co., out of Saskatoon, has come up with a new line of Maximum Air Velocity (MAV) straw choppers that can spread straw uniformly over a cut width of 45 plus feet. We haven't seen that kind of residue management since the Straw Storm which could spread residue 50 plus feet. The problem with the Straw Storm was that it wasn't built heavy enough to deal with the heavy residues produced in NE Saskatchewan year-after-year.

The McGrath family farm is truly a multi-generation operation, involving 3 generations of McGraths. They crop about 16,000 acres in the Leroy area, about 20 km southeast of Humboldt. They have been direct seeding for over 15 years. They seed cereals and large seeded crops with 2 Morris air drills equipped with Atom Jet side band openers. They run 2 air carts with each drill – one for dry fertilizer and one for the seed. They seed oilseeds with a Seed Hawk. They swath 42 and 30 feet wide and straight cut 36 feet wide. The McGraths ran MAV choppers last year on New Holland CR combines. Les says that the new design on this chopper can match the residue spread to any of their cutting widths simply by lowering or raising the tailboard of the chopper. He

says a lot of people will need to see it out in the field to understand how it works.

Dean Mayerle, engineer with Redekop, explains that the tailboard on this chopper can be raised 5° above horizontal to 35° below horizontal. It's operational for spreading form angles +5° to -20°, which gives a spread range from 45 to 20 feet. They have found about 5 feet more residue spread for every 5° the tailboard is raised. Changing tailboard position quickly is accomplished with spring pins. He goes on to explain that exceptional spread is achieved on this new MAV chopper line with airseeder type fans



**Figure 1: MAV display chopper. Notice the paddles and shroud, which direct the air for maximum spread. The spring pin that is used to quickly set tailboard position, has just recently been replaced with an optional in-cab adjustment.**

situated on both ends of the straw chopper rotor. A shroud pressurizes and directs the air from these fans to the outside 2 or 3 fins of the chopper where the spread is needed.

When Redekop was developing the chopper, they had PAMI do some test work. The work was done inside which means no wind variables but they found that: "...the chopper was capable of discharging straw up to 50 ft. More importantly was that 90 to 95% of the straw was deposited evenly over about 42 ft." Their definition of evenly

was, "...the maximum variation from ideal was less than 1.5% of the total material."

On Redekop's older style choppers, air velocity was created with paddle blades in place of some of the hammers or knife blades throughout the rotor. With the MAV chopper, the paddles creating air velocity for spread are situated on the ends of the chopper acting like the



airseeder type fan. See the simple shroud in Figure 1 over the top of the paddles directing and optimizing air velocity. The rest of the rotor is devoted to knives, which give better chopping performance and last longer than paddles. Mayerle explains that the chopper cuts straw in short pieces by spacing 2 knives 1 inch apart. They rotate on either side of a stationary knife. Redekop offers the standard knife blade which is about 3/16 of an inch thick and is sharpened on both sides so it can be reversed. They also offer a knife with carbide coating on one side so the blades stays sharp with wear. The stationary knife

bank has a friction plate, which allows it to kick out of position if foreign objects pass through.

One of the residue management tools for direct seeding is the heavy harrow. They are especially popular where producers can grow a lot of straw. Some direct seeders swear by them and others at them. McGraths say they do not heavy harrow and do not want to heavy harrow. The biggest benefit to heavy harrowing is residue manage-

**CONTINUED PAGE 15**

# The Patch

By Tim Nerbas, PAg  
Conservation Agrologist

Do you know someone who could use “the patch”? Someone who knows it doesn’t make sense to keep feeding a bad habit? Someone who wants to quit but just can’t? Someone who requires a little help to fight the cravings of their addiction?



Wind erosion filling standing stubble

Of course I’m referring to “the tillage patch”. Science developed the nicotine patch to help smokers kick the habit. Maybe what we need is a patch filled with the smell of diesel fuel, covered with some loess (you know, topsoil that has been wind-blown), and constantly releasing a stream of CO<sub>2</sub>. That way when addicts get the craving to go cultivate, they can put on the patch to help their anxiety subside.

Today almost half the seeded acres in Saskatchewan are seeded using reduced tillage. Direct seeding, which some dismissed as a fad just a decade ago, has become mainstream. But that means half of this province’s farming community has resisted this healthy economic and environmental change.

The tillage patch would be designed to fight the cravings some producers have developed after years of cultivation. Some of these cravings include:

- the smell of diesel fuel burning
- the smell of money burning because of the cost of the diesel

burning

- the need to feel a constant release of CO<sub>2</sub> because of the rapid breakdown of organic matter, the blacker the better

- the taste of loess in the air, a good reminder of the soil erosion created from their farming practice.

Until technology embraces this concept, there are some things the addicted tillers can do to help overcome the tillage craving. Contact the SSCA at **1-800-213-4287** to talk to the local SSCA representative in your area. It’s a good place to start to get some ideas, references,

and recommendations for even the most basic direct seeding questions. Visit the SSCA website [www.scca.ca](http://www.scca.ca) and take a look at the five pillars of direct seeding:

1. Residue management
2. Crop rotation
3. Weed control
4. Seeding principles
5. Soil fertility

Now is the best time to make plans for the very first step, residue management. Thus, direct seeding starts at the back of the combine. There are still a few weeks to get things in place for this year’s harvest that will put you on the right track for direct seeding next spring.

On April 23<sup>rd</sup> and 24<sup>th</sup>, high winds reminded producers once again why direct seeding is so important. Top-

soil filled the ditches, fence lines and neighbouring stubble. What took hundreds of years to build was spread throughout the countryside in less than 48 hours. Direct seeders benefited from the topsoil blowing – these producers were the net accumulators. But for the rest of the population, it was a dismal few days on the prairies as the skies grayed with topsoil that soon filled ditches and streams.

If half of Saskatchewan’s seeded acres are under reduced tillage operations, obviously the other half is not. That means the latter continues to use tillage as its main method of weed control, not to mention the over 8 million acres still summerfallowed annually. It highlights not only how far we’ve come, but also how far we have to go. Millions of acres lie vulnerable to erosion, be it wind or water.

If you or someone you know is having difficulty fighting the tillage addiction, it’s time to talk about the



Canola in a direct seeded situation.

tillage patch. Remember: it hasn’t been invented yet so you may need to refer to the “tillage support group” – that would be your local SSCA representative! ●

# Neighbours Helping Neighbours: Using Crop Residues to Feed Livestock

By Juanita Polegi, PAg  
Assistant Manager

As I write this article near the end of May, the provincial livestock herd remains large and dry weather continues to plague much of the province. If the drought persists and the borders don't open soon, procuring adequate feed supplies for the winter will be a real concern for livestock producers. Saskatchewan was built on the help neighbours could provide to one another through good times and bad. This may be the year when rural residents will once again put into action the concept of "neighbours helping neighbours". By allowing cattle to graze crop residues after harvest, the grain farmer and the rancher may discover a mutually beneficial arrangement.

The practice of grazing straw and chaff is not new or radical but it isn't something cattlemen have been doing a lot of since the advent of the baler. Lorne Klein, Rangeland Agrologist with SAFRR at Weyburn said that cattlemen have developed a mental block when it comes to grazing straw & chaff. "Traditionally, cattle producers bale all their hay & straw, they bale their sloughs and as soon as the first snow falls, they bring the cattle into the corral and feed them there all winter long", he explained. "This is a very time consuming and costly practice", he said.

While grazing crop residue post-harvest seems simple enough, there are many elements that have to come together to make it successful. Lorne has developed a check list. Firstly, the cow herd should be summer calvers. "A cow's nutritional requirements are much lower during her 1<sup>st</sup> & 2<sup>nd</sup> trimester than the last 1/3 of her pregnancy so she is able to do well on a chaff, straw and perhaps a supplement diet", said Lorne. And if the cows aren't put out onto the fields until the soil is frozen, the risk of soil compaction is greatly reduced.

Secondly, there has to be sufficient acreage for the cows to graze throughout the winter and to justify the cost of the collection equipment. "We're not sure what the "right" size is but we're pretty confident that 2 sections is a good start", said Lorne. "You need enough acreage to be able to offer significant amounts of spring wheat, oats, barley, pea and lentil chaff to make the grazing worth while."

Thirdly, the type of combine and the kind of crop must be factored in. Rotary combines collect both chaff and straw while conventional combines are able to collect chaff and straw or only the chaff. While it is desirable to use both the



Grazing chaff rows. Photo courtesy of Lorne Klein.

straw and chaff from crops such as cereals and legumes, only the chaff is used from flax.

Fourthly, the cows must have access to a water source if there is no snow and they must also have shelter from the wind. "If there is no natural windbreak, then portable windbreaks need to be built", said Lorne.

Finally, the cattleman must be able to work with electric fencing. The success of the grazing depends on the movement of the electric wire as frequently as every 5 - 7 days.

Dr. Guy Lafond with AAFC at Indian Head has conducted some research into the amount of straw and chaff created by a bushel of wheat. Currently, the accepted view is that the amount of chaff produced is about 25% of the grain yield. So for one bushel of wheat, 15 lbs of chaff is also produced. In a field

where the average yield is 25 bu/ac wheat, the amount of chaff produced is ~ 375 lbs/acre. If the field is 150 acres in size, that translates into 56,250 lbs of chaff. For a cow that eats 30 lbs of chaff per day plus some supplement, that field will give 1875 cow days. Once a 10% feed loss is factored in, the field will provide about 1700 cow days. Put another way, the field can feed 100 cows for 17 days!



So, what's in it for the grain farmer? Many grain farmers choose not to run any livestock because they just don't like 'em! Turning their fields over to the neighbour's cow herd can be a tough pill to swallow - especially since the cows will be consuming a considerable amount of nutrients. While Lorne acknowledges that the livestock will eat most of the straw and chaff, the nutrients will not be lost to the field.

"The land will still receive most of the nutrients from the residue but after they have been run through a cow."

There are 2 ways in which the grain farmer can benefit from having the bovines munch the stubble. The first is the exchange of cash. The 2 managers have to come to an agreement whereby it's economical for the cattle to be fed on the straw and chaff and the grain farmer is being compensated for the nutrients in that feed. Duane Thompson, a rancher from Kelliher said you need to find a person who is business minded in order for the system to work. "The cattle man and the grain farmer have to want to do business together and they have to recognize that it's a win-win situation for both enterprises".

To establish a daily rate for grazing, a number of factors must be considered.

**CONTINUED NEXT PAGE ...**



# Cows Munching Crop Residue Economical for Both Grain Growers & Ranchers

By Juanita Polegi, PAg  
Assistant Manager

East Central Saskatchewan usually receives lots of moisture during the growing season so putting up a good supply of feed for the winter is generally a guarantee. But 2 ranchers from the area have broken with tradition and are now making their cows go to the feed source rather than taking the feed to them. Duane Thompson of Kelliher and Kris Springer from Foam Lake have each made arrangements with neighbouring grain farmers that enables them to turn their cow herds out on grain fields post-harvest.

Duane said he really had no difficulty in finding land for his cows to graze. "I spoke to a good friend of mine and he was really quite open to the idea. And then once the neighbours realized their chaff and straw also had value, the phone started ringing!" Lorne Klein, SAFRR Rangeland Agrologist said it is important for the rancher and the cattleman to sit down together to establish a fair price for the value of the nutrients. "While the cattleman is able to feed the cows on the chaff and straw, the grain farmer can also benefit by strategically placing chaff piles and of course, from the exchange of some cash".

Both Duane and Kris said the key to grazing straw and chaff is to have the cows calving in late spring. "It all relates back to nutrition", said Duane. "If they aren't calving until mid April or later, they can do quite well on chaff supplemented with some high quality feed". Kris concurs. "Grazing chaff



Grazing chaff piles. Photo courtesy of Lorne Klein

and crop residue is a cheap way of getting some fibre into the cows", he said. Kris also indicated that the cows require a protein supplement. Duane added that the cows tend to be much leaner and more fit when they have been roaming the fields all winter. "It's much easier to calve out a cow that is fit and lean than one that is fat and out of shape".

Naomi Paley, SAFRR Livestock Agrologist in Yorkton agreed that many cowherds are doing very well grazing throughout the winter. Prior to adopting this system, though, she recommends that ranchers evaluate their cow herds and assess each cow for body type. "Cows with a small to medium frame that are rangy and hardy do best under this grazing system", she said. "Cows with high maintenance requirements will need a lot of supplementing in this system." As Naomi explained, "Not all cows are alike!" While some cattlemen have expressed concern the cows might be a little picky and refuse to eat the chaff, Kris hasn't found that to be a problem. "I've noticed that if you put the cows out onto a field just after you get a little snow, they get pretty focused on those chaff piles", he said. Kris appreciates how the chaff extends his grazing season. And if the cows are held off the fields until just before freeze-up,

Duane noted that soil compaction isn't a problem.

Grazing chaff and straw piles is proving to be an economical method for feeding cows throughout the winter for both Kris and Duane. If you're interested in learning more about their grazing management systems, give them a call or come to the SSCA Annual Conference and hear Duane describe his system in person. ●

## NEIGHBOURS HELPING NEIGHBOURS ... CONTINUED FROM PAGE 8

These include the quality of the chaff (will the cows require supplemental feed?), the availability of water and whether fencing is already in place. Lorne indicated that ranchers are paying anywhere from 20¢ to 40¢ per day for grazing. Using the above example of the 100 cows grazing for 17 days, that works out to \$340 - \$680 the field nets just on the grazing. As Lorne pointed out, that fee, a tangible benefit, goes a long way in paying the taxes on the land.

An intangible benefit is the ability to manipulate the placement of the

nutrients. For instance, the combine operator may dump chaff piles in places where she wants to enhance the fertility, such as hilltops. The hills receive some extra fibre from the crop residue and the nutrients from the manure of the cows as they feed. Kris Springer, a rancher from Foam Lake says he likes to place the piles on his sandier land or land affected by salinity.

In order for straw & chaff grazing to be successful, the land must be in a block and be of sufficient size to justify the cost of the machinery, wind breaks,

water source and fencing. "The whole thing breaks down if you think you're going to haul the chaff", said Lorne. "The economics are just not there unless the animals get the feed for themselves. The only machinery investment should be the attachment for the combine".

By the time this article is published, looking for alternate feed sources may not even be necessary. But for the cattleman tired of watching the skies during July and running a baler, straw and chaff grazing may be just the method for feeding cows another year. ●

# More Uses for Forages

By David Larsen, PAg  
Conservation Agrologist

Perennial establishment of forages has traditionally been limited to livestock producers and marginal land. However, there is a place for the permanent establishment of small acres of forages in every field. Forages can add value to a grain farm while lowering production costs.

Hay has value whether you have livestock, or not. Livestock numbers in Saskatchewan are increasing and feed sources are needed. Forages can be cut and baled or fall grazed. The convenience of electric fencing provides a fast and easy method for livestock producers to utilize

the hay and crop residue on your field. A diversified income may be enough incentive for some producers, but the benefits of forages are greater than the value of the hay produced.

The benefits of including a leguminous forage crop, such as alfalfa, in a rotation are well known. Alfalfa and other forage crops are an effective and sustainable way to suppress weeds and increase your soil nitrogen and organic matter levels. When forages are established with low disturbance seeding and terminated with glyphosate, the soil improvements can be

quite rapid. My illustrious colleague Tim Nerbas documented the effect of forages on the yield of subsequent crops in "Forages - But I don't have Cattle" in Prairie Steward issue #37.

Forages can be utilized for more than a soil amendment. They can also be used to frame your field. Seeding every acre in a field may achieve maximum productivity. However, this may come at an economic and an environmental cost. Permanent establishment of forages in fields with

annual crop production can increase production efficiency and reduce the environmental impact of crop production. Fields with sloughs and extra corners; fields along waterways; and field widths that do not match the size of the machinery are instances where a field design can be optimized with forages.

Selectively choosing where to establish forages within a field will: decrease time spent in the tractor, reduce overlap, reduce input costs, reduce the need for guidance technology, and benefit the environment. Forages can be utilized to increase production efficiency in three

ways. simply you can design your field, the less waste you will have.

Fuel, fertilizer, seed, pesticide and time is wasted when field operations don't follow the straightest and longest path.

Misses and/or overlaps occur every time there is a corner or an obstacle. That extra acre or three that you get between sloughs or by going into a tight corner has a higher cost of production per acre.



Table 1. Yield reduction of sprayer transport systems for an 18.3 m (60 ft) spraying operation using overall average yield reductions

Wheel Configuration	Crop Stage (%) Reduction			
	Initial (2-3 leaf)	Middle (5-6 leaf)	Final (tillering)	Average
Single Sprayer Tires	0.270	0.752	1.906	0.976
Tandem Sprayer Tires	0.752	1.134	1.675	1.187
Tandem Sprayer Tires In Tractor Tracks	0.577	1.089	2.294	1.320
Tractor Tires (Avg)	0.768	1.222	2.246	1.412
Single Sprayer Tires In Tractor Tracks	1.170	1.428	2.177	1.592
Single Sprayer Tires + Tractor Tires*	1.906	1.644	3.857	2.469
Tandem Sprayer Tires + Tractor Tires*	0.651	2.687	4.216	2.518

\* Sprayers tires are not run in the track made by the tractor tires.  
Alberta Agriculture, Food and Rural Development

different ways. These include establishing forages for:

1. field sculpting,
2. riparian buffer areas, and
3. guidance strips.

### Field Sculpting

"*Simplicity is the ultimate sophistication.*" - Leonardo DaVinci

I'm quite sure Leo wasn't referring to farming, but, as with many great statements, it transcends borders. The more

field edges, between sloughs and in less productive areas.

There isn't a rough and ready guide when it comes to field optimization. Every field is different, as is the tolerance and objectives of individual farmers. If, as a producer, you have certain forage production you require, then establishing large areas between sloughs might fill your need. However, if you can tolerate some extra corners and overlaps in the pursuit of extra grain production, then

Another potential source of waste occurs when machinery width doesn't match the field width. Do you have fields where you are always overlapping half of the drill width on the last pass? Many producers already match the width of the sprayer to double the width of the drill. Matching the field to the width of the machines follows this logic.

Field sculpting essentially gives your field a haircut. Frayed edges are eliminated and the field is trimmed, leaving an efficient layout. Forages can be established along

less forage acres is likely desired. Using GPS maps, personal knowledge and aerial photographs will help you determine your best lines of travel for every field.

### Riparian Buffer Areas

In addition to increasing field efficiency, seeding forages around sloughs, wetlands and waterways provides a riparian buffer area. A riparian buffer is a permanent green strip between the wetland and upland area. A healthy riparian ecosystem functions as both filter and a reservoir, affecting both water quality and pattern of delivery of water to downstream users.

It provides a valuable ecological function and can create important economic benefits. Some of the major functions of a healthy riparian area include: purifying water, reducing erosion, maintaining stream flow, recharging groundwater, providing wildlife habitat, and producing abundant high quality hay.

Controlling water flow creates significant benefits to the adjoining cropland. Spring runoff is slowed and retained by the buffer strip. This reduces the effect of downstream flooding. The moisture retained in the soil increases subsoil moisture levels. This moisture is then available for utilization by the forage and cropland later in the season when it is most needed. Limiting weed invasion into the cropland is another benefit of the established forages.

### Guidance strips

Permanent pathways to drive on while operating the equipment is a new idea generating interest in Australia. Traffic creates compaction of the soil and trampling of the crop. Controlling traffic to areas not seeded eliminates these concerns.

Compaction is a large problem in Australia. To combat this, they are introducing the idea of matching equipment sizes so all operations follow the same set of tracks except for combining. The tire tracks that are used by the tractor in seeding are the same tracks that are used by the sprayer. Therefore,

when the soil is wet or when the crop is growing there isn't any traffic on the field. Traffic is relegated to the pathways where field crops are not established. Using forages as a permanent path for the tires of machines will keep the tractor and sprayer off of the crop with the added benefit of having a forage crop to harvest.

The benefits of a permanent tramline are applicable to Canada, although not to the same extent as Australia. The severity of compaction in Canada is mitigated by our winters. Freezing temperatures create a freeze-thaw action in the soil, helping it recover from compaction. However, compaction that

The greatest benefit to establishing travel pathways is the elimination of trampling. Trampling is a cost not often taken into account. Every time a machine passes over top of a crop the yield is reduced. Trampling reduces yield at all stages of crop establishment. Later spraying operations create greater crop damage. The yield reduction from trampling is indicated in Table 1. The weight on the sprayer (from water) or tractor does not significantly affect the yield.

High clearance sprayers limit some of the crop trampling. However, reduction in yield by high clearance sprayers equipped with narrow tires, crop dividers and undercarriage deflectors is still estimated at 2%. When the crop lost from trampling is added to the cost of purchasing a self-propelled high clearance sprayer, the cost of establishing forage strips suddenly becomes a lot lower. If forage strips are used, crop trampling is not a factor. A pull-type suspended boom sprayer is now as effective at a much lower cost.

Setting up forage tramlines under Canadian conditions would, therefore, be most effective for sprayers. Forages could be set up to serve as the driving pathway for both seeding and spraying. The benefit of driving on forage pathways during seeding would only be realized in wet

springs. Forage pathways for the sprayer will also serve as seeding guidelines (Figure 1). Each boom of the sprayer would cover one pass of the seeder. The centre section of the sprayer overtop of the pathway would be shut off.

Whether you want to increase forage production, diversify the source of revenue on your land base, generate environmental improvements or increase the efficiency of your grain production: forages have a fit. Establishing forages in selective locations throughout a field will provide valuable forages while reducing the cost of producing field crops. Planning is required to initially set up the forage locations, but once established all subsequent operations are simplified. ●

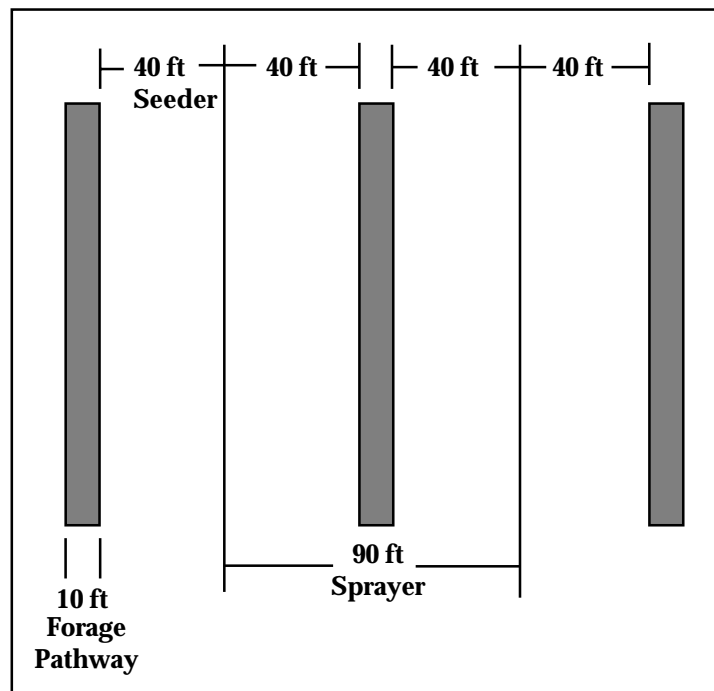


Figure 1: Forage Pathways to Avoid Crop Trampling

occurs in the spring will limit yield for that growing season. Researchers in Queensland found that the first pass of a tractor causes 85 percent of the soil damage recorded by multiple passes. Compaction of the root zone causes reduced water infiltration and reduced biological activity.

Controlled traffic farming has many other benefits. These include:

- Reduced costs - fuel, seed, fertilizer and sprays
- Lower tractor power requirements
- Greater accuracy of placing inputs
- Less operator fatigue
- Erosion control
- Improved efficiency and effectiveness of all operations

# PERRL

By John Bennett  
Advisor to the SSCA Board

PERRL stands for Pilot Emission Reduction Removal Learnings. It's a federal government program designed to explore Greenhouse Gas projects. One of their early exercises was an emission offset trading market that brought together buyers and sellers.

In March 2004, they instituted a project in which the Government of Canada would purchase "temporary emission removals" from agriculture and forest sink projects. Each of which was allotted 1.25 million dollars.

The SSCA, along with the Soil Conservation Council of Canada (SCCC), has long promoted the concept of temporary emission removal offsets as a market tool to address the issue of sink reversal. The Association went to considerable effort to recruit partners in soil conservation groups from Ontario to B.C. with the goal of participating in a constructive PERRL initiative. As part of this process, the SSCA also consulted with many agricultural groups to inform them of their efforts and to identify any additional concerns. SSCA recognizes the huge contribution that Ag soil sinks can make in meeting Canada's Kyoto commitments. SSCA was also interested in how market structures can be used to incent carbon sink creation and maintenance. The SSCA and its partners also agreed that some basic principles must be met before they would complete the bid process.

The bid process supplied coefficients for carbon gains and reductions of Nitrous oxide ( $N_2O$ ) emissions that result from direct seeding. At the start of the process the  $N_2O$  reductions and carbon removals were both treated equally.

Since there is no permanence liability issues with  $N_2O$  reductions, we suggested that they be treated differently than Emission removals with sinks.

The PERRL bid specified that only land converted to new management practices after the bid was accepted (ex. Spring 2004) could be used as part of the bid process. However, if a different (lower) coefficient were used, existing direct seed acreage could qualify under the bid process.

This process would create a third pool of offsets. The first pool of Business as Usual (BAU) offsets would be appropriated by the government of Canada with no value returning to the farm gate. The PERRL pool would be a new BAU pool but with the difference being producers would be paid by PERRL. The third pool would be tradable and the market system would return value.

Implementing a 3 pool system, would be a major accounting challenge since there is just no practical way to track the management of every farm field then subdivide the offsets into three pools.

The stumbling block that resulted in SSCA withdrawing from the PERRL process was the definition of "temporary emission removals." The following question was one of several that we posed to PERRL. It was phrased to eliminate the ambiguous answers to previous questions:

*"TER" (temporary emission reductions) are created when farmers remove  $CO_2$  from the atmosphere and store organic carbon as an Ag carbon sink. Presumably farmers would be responsible for maintaining this carbon sink for the duration of the PERRL contract in order to maintain atmospheric integrity. If the TER is permanently retired (by PERRL) who is responsible for maintaining the sink in*

*perpetuity (to maintain atmospheric integrity?)*

The response was as follows: *Emission removals can be determined in a number of ways including both permanent removals and temporary removals. The fact*

*that PERRL is purchasing temporary storage of carbon in a soil sink means we are paying for a removal that will continue in perpetuity beyond the end of the PERRL contract.*

Expecting producers to create offsets for PERRL that are permanently retired and require perpetual maintenance **would transfer an unreasonable amount of risk to the farm gate. Producers would be foolish to participate in any market that adds more liability to a business that is already fraught with risk.**

The SSCA and its partners felt that it would be irresponsible as a producer based organization acting in the best interests of our members to facilitate such a contract. How could we in good faith, ask our membership to participate in a project that could forfeit future opportunities and at the same time accept the liabilities of perpetual maintenance?

Ending on a positive note, we may not have had success with PERRL 1, but the failure of PERRL 1 (there were no acceptable bids) was a success. As well, through all this, we have been able to keep farmers on the same page on this issue. We will likely see a PERRL 2 which will hopefully offer farmers more reasonable terms.

We will do our best to look after our memberships' interests with pro-active action and keep you updated. ●



## Call for Nominations

Hear ye! Hear ye!

It's time for the Election! No, not *that* election. The election for the SSCA Board of Directors. The following positions are open: Regional Director, EC (Don Horsman is finishing his 2<sup>nd</sup> and final term)

Regional Director, NE (Tom Mathieson, finishing his first term)

Directors-At-Large: Mike Kirk and Dr. Brian McConkey are both finishing their first terms.

If you or someone you know is interested in running for one of these positions, contact Marilyn Martens, SSCA Office Manager, for the Nomination Papers. Each nomination must be signed by **3 SSCA members** in good standing. Nominations must be received by Marilyn by **September 30**.

# Variable Rate Technology Showcased at Seeding Trends

By Rich Szwydky, PAg  
Conservation Agrologist

A new technology that measures crop nutrient status and then variably applies nitrogen requirements was recently demonstrated at Seeding Trends 2004. GreenSeeker®, an integrated optical sensing and application system, was developed at Oklahoma State University and marketed by California-based N-Tech Industries. Rick Pattison, owner of Pattison Liquid Systems Inc. at Lemberg SK, has been selected by the parent company as the GreenSeeker® representative for Canada.

Pattison addressed a large crowd at Seeding Trends 2004, held at the Seager Wheeler farm east of Rosthern. He stated environmentalists and governments are going to change the ways that producers currently farm. Producers will have to manage future nitrogen applications more effectively by ensuring that crop nitrogen uptake is maximized. There are several ways to accomplish this, including minimizing nitrogen losses into the environment, timing nitrogen supply to crop demand, and avoiding over or under application of nitrogen. Because the GreenSeeker® technology can accu-

rately apply nitrogen, producers can use this new technology to maximize return on investment in nitrogen costs, while optimizing yield.

The GreenSeeker® technology uses a vegetative index known as NDVI (normalized difference vegetative index) to measure plant health and vigor, and an environmental factor to determine the yield potential for a

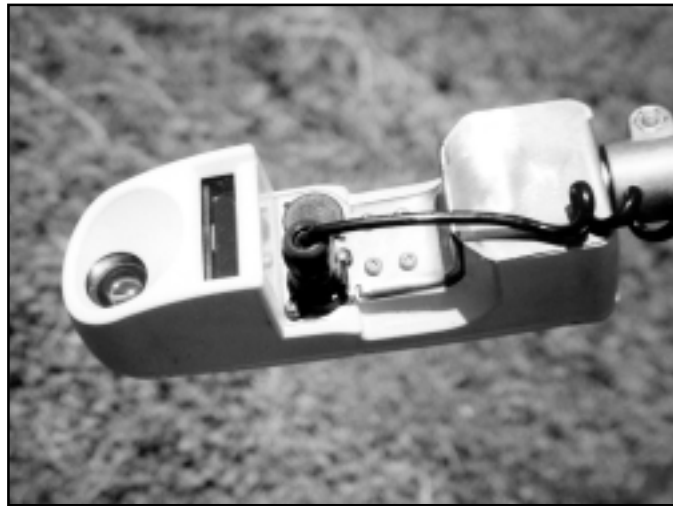
light emitting diodes to generate red and near infrared light which is then reflected off the crop and measured by a photodiode installed in the



sensor head. Pattison explained that the sensor measures for differences in green color between the plants and compares it to the established color standard (N rich strip in the field). The sensors, which are connected to the rate controller in the cab, then apply fluid fertilizer accordingly from stream nozzles to the previously sensed area.

Pattison said six sensors are used across the entire length of the boom. The current cost to equip the technology on a sprayer or dribble bar is approximately \$15,000. He indicated this cost would be recouped quickly, due to optimized yield

through efficient nitrogen application, especially in an era of escalating fertilizer costs. Producers can also purchase a hand held sensor at a fraction of the cost to determine crop N deficiency/sufficiency areas in the field, and then apply N accordingly. ●



**The GreenSeeker sensor is able to measure crop nutrient status and then variably apply nitrogen requirements**

given crop. Yield potential and the responsiveness of the crop to additional nitrogen, will be the factors that help govern extra nitrogen recommendations.

The optical sensors are placed along the boom of the sprayer. The sensors use

## SEEDING TRENDS 2004 ... CONTINUED FROM PAGE 3

refer to the variable rate nitrogen article in this newsletter.

The sprayer demonstration segment began with a short presentation on nozzle technology by Tom Wolf from Agriculture and Agri-Food Canada. Following Wolf's presentation, representatives from New Holland, Brandt, John Deere, Eagle, Apache, and Case IH spoke about their respective machines and provided infield demonstrations.

The direct seeding demonstration closed off the successful day. Ten

direct seeding drills were showcased in this demonstration, where barley was seeded into flax stubble. The drills and openers featured included Seed Hawk, the Morris Never Pin, Peacock, Flexicoil 5000, TechnoTill, Harvest Technologies, Bourgault 5725 Coulter drill, John Deere 1820, Case IH SDX40 coultter drill and New Holland's SD440 air drill. Company representatives discussed the features of their respective machines, which was followed by the actual seeding demonstrations. Producers attending this

event had a first hand look at seed depth placement, seed/fertilizer separation and field finish as each drill made its pass.

The seeding pass made by each company will be signed for the summer tour season. Individuals interested in a particular opener or drill are welcome to stop by the farm and view the crop through to maturity. Tours will also be arranged for early July. For more information, please contact the Seager Wheeler farm at 232-5959 or myself at 229-0230. ●

# Busy Season for the CLC

By Laurie Hayes, Msc PAg  
Manager, Conservation Learning  
Centre

After a very dry start to spring, we have received about 1.5 inches of rain over the past three days (June 1). Crop plans have not changed since our last update. Most of the seeding is done with the exception of the precision agriculture project. We are encountering problems trying to generate an as-applied map for the liquid fertilizer.

The CLC is pleased to announce federal funding for new projects:

- **Optimal efficiency of crop inputs for environmental sustainability – EcoACTION Community Funding Program (Environment Canada):** This is a two-year project that will demonstrate the importance of *environmental sustainability* (and stewardship) to long-term *economic sustainability*. This project is similar

to our past precision agriculture project with the exception that fertilizer application rates will be based on soil analysis, not a predetermined formula and the addition of prescriptions for the application of herbicides. We thank Moker & Thompson for their continued commitment to the CLC's precision farming

projects and the use of a GuideMate® Tilt-Compensated Navigation system.

- **Riparian management in a cultivated landscape – Greencover Canada Technical Assistance Program (Agriculture and Agri-Food Canada):** The focus of this four-year project is to encourage agricultural producers who are strictly annual crop producers to adopt beneficial management practices when farming lands adjacent to watercourses. Riparian management demonstrations will be

developed along the Carrot River watershed. Through this funding, the CLC will be hiring a full-time technician for the course of the project. The project is a partnership between SSCA, SAFRR, Saskatchewan Watershed Authority (SWA), Ducks Unlimited Canada (DUC) and the Saskatchewan Conservation and Development Association (SCDA).

- **Technical Training and Capacity Building for Professional and Extension Staff – Greencover Canada Technical Assistance Program (Agriculture and Agri-Food Canada):** This four-year project consists of two components: 1) to provide technical training for professional staff in the areas of assessment of range health, riparian health, tame forage health and woodland health and provide exposure to beneficial management practices already implemented at the field level,

ewan, Saskatchewan Environment and the Saskatchewan Research Council.

We have continued funding for:

- Extension activities to demonstrate establishment of riparian forage barriers around wetlands (CARDS)
- Demonstrating the value of on-farm long-term water quality monitoring to producers making management decisions (CARDS)
- Conservation and Kids (PromoScience – Natural Sciences and Engineering Research Council)
- Greenhouse Gas Mitigation



- Project for Canadian Agriculture
- Nutrient management techniques (SSCA)
- Demonstration of benefits of swine manure injection on annual crops (PAMI)

We also have continued provincial support from SAFRR through the Agriculture Development Fund and the Agri-ARM network.

Other small projects of interest include:

- The effect of direct seeding on phosphorus levels in runoff: There is some speculation that, because phosphorus applied under direct seeding management remains close to the surface, there is potentially more phosphorus that runs off into water bodies than in fields under higher

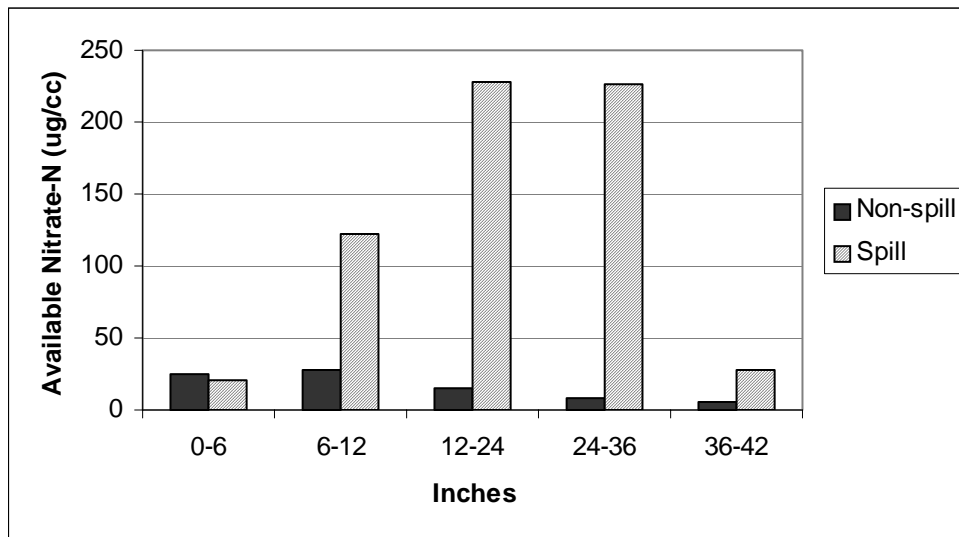


Figure 1: Level of available nitrate-N in each unit of soil depth in spill and non-spill test areas.

and 2) to develop and deliver a workshop on extension techniques (oriented to range, pasture, riparian and shelterbelt extension) to the same audience, as well as providing an update on adult education techniques. The Prairie Conservation Action Plan and the CLC will jointly coordinate this project with support from SWA, DUC, SAFRR, Agriculture and Agri-Food Canada (PFRA), the University of Saskatch-

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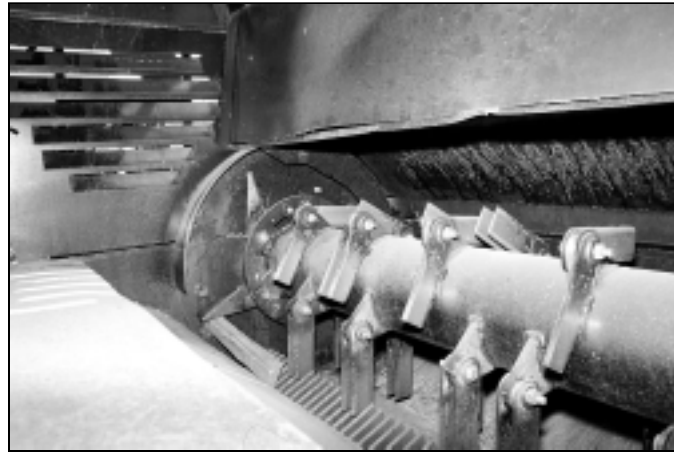
## NEW RESIDUE MANAGEMENT TOOL NOW AVAILABLE ... CONTINUED FROM PAGE 6

ment, especially for those who haven't got a good system on their combine. The dry conditions in the northern Sask grain belt the past few years has encouraged many producers to switch to direct seeding. A number of these producers, however, have not made any changes to their combines, relying on heavy harrowing to manage the crop residue. While straw can be moved around with a heavy harrow, it is important to note that **it is very difficult to do much with chaff once it is on the ground.**

A second effect of harrowing often talked about in NE Sask. is the promotion of weed growth. There are two schools of thought on this effect. Some producers like to promote the growth of annual weeds and volunteers so that frost or the spring burn-off will control them. For others, promoting weed growth is a big deterrent to harrowing.

SSCA has always said that whether you believe in heavy harrowing or not,

there are big benefits to doing the best residue management job possible behind the combine. For those who haven't yet made that step, this new residue management system gives them another option they can consider. It's



McGrath's chopper.

being marketed in a number of different packages. Mayerle points out that if individual blades are being replaced on a rotor, balance needs to be maintained by replacing those on the

opposite side of the rotor front to back. Side-to-side balance can also be affected so if blades like paddles with more weight are being replaced, then consider replacing the blades in the equivalent position on the other side of the rotor side-to-side.

The McGraths are very happy that the choppers handle both chaff and straw on the CR combines. Les says they get good chaff spread even with a side wind. They feel that the engineering and thought that went into these choppers was very "down to earth". Of course, every year is different and in 2003, harvest weather was almost ideal. But Les feels that even in tough harvesting conditions, this chopper will perform. Another benefit of this chopper is that air flow through the combine is not affected. Les

says they are running headers designed in Sask. and they realized that they also wanted Sask. designed residue management equipment. The Redekop MAV chopper fits the bill for them. ●

## BUSY SEASON FOR THE CLC ... CONTINUED FROM PAGE 14

disturbance systems. from Under guidance from Dr. Jane Elliott with the National Water Research Institute, soil samples were taken from four CLC fields (under direct seeding for 10 years) and a neighbour's field (disked each fall and cultivated, harrowed and sometimes burned each spring for many years) at 0-2", 2-6", 6-12" and 0-12". The samples have been submitted for determination of phosphorus content and results will be reported in the next newsletter.

The impact of fertilizer spills: In 1998, 700 gallons of 28-0-0 (liquid nitrogen) fertilizer spilled in the yard at the CLC. This spring, soil samples were taken at the spill site and

at another location in the yard with the same slope at 0-6", 6-12", 12-24", 24-36" and 36-42" depths. The

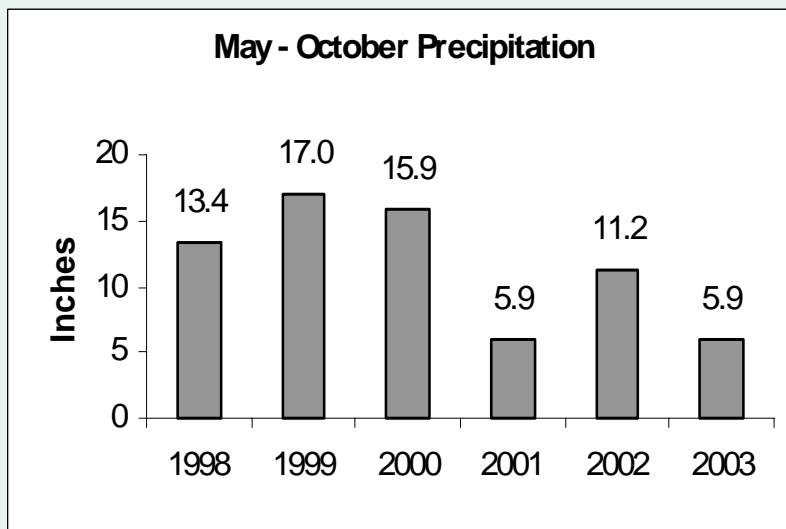


Figure 2: May - October precipitation in inches from 1998-2003.

results of the soil analyses as well as the growing season precipitation since the spill are shown in Figures 1 and 2.

### Student Activities

This spring, ~750 students have participated in the school program.

Staff has spent considerable time this winter developing new activities, enhancing the learning experience for students. We are also working closely with two local school boards on fitting the CLC's program into non-science curricula areas and hope to have some new semester-long projects for students in place for the fall.

Again, we thank our partners, sponsors and supporters for their continued commitment to the CLC. We invite

you to check out our new website at [www.conservationlearningcentre.com](http://www.conservationlearningcentre.com)

See you at our annual field day on Tuesday, July 20, 2004!! ●

# Laura Reiter - New Director for the North West

By Tim Nerbas, PAg  
Conservation Agrologist

The SSCA Board is pleased to welcome its newest director, Laura Reiter, PAg. Laura represents the Northwest, replacing her father and six-year Board veteran, John Clair.

Laura farms with her brother, Bryan Clair, south west of Radisson. They are slowly taking over the 3000-acre family operation from their parents, John and Margaret Clair.

After completing her BSA in 1993 with a major in crop science, Laura worked with the University's Crop Science Department. She has also been employed by Sask Wheat Pool's Watrous research farm as well as AgQuest, a private research company. She is currently involved with the Radisson Agricultural Society as secretary.

Laura and her husband, Jack, and son, Brett, live near Radisson. Jack works for a canola research company at their Saskatoon station.

"I am looking forward to my first term with SSCA", said Laura. "I think the SSCA has a very important role in farming but more importantly in Saskatchewan. The organization has helped farmers convert to more sustainable agricultural practices and these benefit us all.

"I am proud to be the third generation of my family that farms south-west of Radisson, Saskatchewan. I haven't been farming for a long time but I have been here long enough to see the



benefits brought to our farm by conservation practices. They have minimized wind erosion and virtually eliminated water erosion. The standing stubble provides a microclimate for the emerging crop, which allows it to become established before having to withstand the wind. My opinion on the importance of conservation can be summed up in one statement. It is *the only* way I have farmed.

"I can see several issues that are or will become part of the SSCA's future. An existing issue is Soil Carbon and Kyoto. If we, as farmers, are left out of the planning stages for carbon credits and their trade, we will surely be given the most risk for the least value. The SSCA's knowledge of soil carbon, as well as how today's farmers operate, puts them in a unique position. Farmers need the work that the SSCA has been doing on their behalf to continue.

"Another issue that I can see coming to the forefront in the near future is environmental farm plans (EFP). In the not too distant future, EFPs will be linked to any farm programs that the governments are involved with. The SSCA has a place in the development of the guidelines for these plans.

"Another thing I see as part of the future for the SSCA resembles its past. I think the SSCA has done an admirable job at increasing the numbers of farmers using conservation practices. This education of farmers must, I feel, be the priority for the SSCA as without farmers that practice conservation, what will the future of farming look like?"

Laura's interest in sustainable farming and her enthusiasm for the work of the SSCA is a sure sign that she will be a hard working member of the Board. And as an interesting aside, Laura is the first female member of the SSCA Board. ●

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