Prairie Steward

Farming For Your Future Environment

The Newsletter of the Saskatchewan Soil Conservation Association Inc. Winter Issue No. 46, 2006

Challenge Your Federal Candidates! Where Does Their Party Stand on Carbon Credits?

By Edgar Hammermeister, Pag
1st VP & Director, South East Region

The federal election call will have political candidates seeking your vote and because the outcome seems tight, they will be willing to listen to your ideas and concerns. Carbon Offset Trading will not be the answer to Agriculture's challenges, but it could be one of many tools to bring financial stability to the farm, **if** the system returns value to the farm gate.

In January of 2006, Canada's Carbon Offset Trading System is to be initiated. The federal election call may have deferred the initiation to some degree, but it will still move ahead in the New Year. We must use this opportunity to raise issues and concerns prior to the Trading System details being set in stone.

Many significant issues have not yet been finalized such as:

Carbon Sink Liability Concerns

· The carbon sequestered through land management could have a liability attached to it because it is not a permanent removal of CO2. The carbon offsets produced could be leased or sold. The leasing option utilizes "Temporary Credits" and minimizes maintenance liability concerns but has a lower value. Should a Farmer choose to sell carbon offsets, a higher value is realized, but a liability period of 10-30 years of sink maintenance may be stipulated in the contract. Liability may be enforced through caveats, contract law or tools yet to be determined.

Business-As-Usual (BAU) - Transparency in its Determination.

· Canada has until August 2006 to determine whether or not it will utilize Ag carbon sinks to reduce CO2 inventories in its Kyoto process. Current indications are that the "Ag sinks are in". However, Canada is not able to count the entire sink in its national accounting. There needs to be transparency with Canada's international inventory reporting clearly identifying and quantifying the contribution Agriculture makes. In summation, if it's Kyoto compliant, it's tradable.

BAU Baseline Re-assessment

· Projects will be re-registered after 8 years and offset activities may be re-assessed. A possible outcome is the scaling back of carbon emission offset creation, not because of a change in activity, but because the activity has become… average… common… in other words, business-as-usual. The policy has not been finalized.

During the election, take time to ask the candidates on what the Party positions are in Agriculture. Hard questions need to be asked, as the solutions will not be simple. Ask for the Party plan. To help with the process, the SSCA Carbon Committee has put forward three questions to stimulate the process (see page 3). We look forward to hearing the answers you received when we meet at the SSCA Annual Conference in Regina next February.

In This Issue

Program funding for 2006??

By Blair McClinton, PAg
SSCA Executive Manager

SSCA's funding problem seems to be never ending. Over the years, the SSCA board has struggled to find ways to maintain program funding. Funding through industry sources is becoming more difficult to find. Government funding is unpredictable. We have looked into different ways to self-fund from check-offs to enhanced membership. However, we have yet to find a practical solution.

Our current funding through the Greenhouse Gas Mitigation Program (GHGMP) and Saskatchewan Agriculture and Food (SAF) comes to an end on March 31, 2006. This begs the question: will SSCA have program funding for 2006 and beyond? If funding is not found, SSCA will be forced to layoff our field staff at the end of March.

While there are on-going discussions regarding developing a new version of the GHGMP, no program will be developed in time for spring. In the short-term, there is a possibility that some "bridge" funding may be available to tide us over for a few months while a new GHGMP program is developed. With the current political situation in Ottawa, getting any funding for our efforts may be a challenge.

We have also approached the Saskatchewan government to provide us with some funding for an agricultural component the Province's "Green Strategy." However, they remain non-committal. Our dilemma is that, to maintain our existing staff, we will need funding from both the federal and provincial governments. In fact, getting the support from the province may improve our chance s of getting support from the Federal government.

"With 50% of the province still using significant tillage, there is still much work to be done. Climate change is a big issue that will not be going away. SSCA still has work to do to ensure that Saskatchewan's land resources are protected and that farmers can benefit from their contributions to society."

"The best way to help is to contact the Minister of Agriculture and your MLA to express your concerns about SSCA's funding situation. If enough of us speak out, maybe someone will decide to listen."

Like previous executive manager's, I find this constant pressure to find new funding very frustrating. Across the country, SSCA is held up as the model on how to promote change in the farming community. SSCA's staff is well respected throughout the agriculture industry. We have the highest adoption rates of sustainable conservation farming systems in Canada. SSCA has played a major role in this success story.

With 50% of the province still using significant tillage, there is still much work to be done. Climate change is a big issue that will not be going away. SSCA still has work to do to ensure that Saskatchewan's land resources are protected and that farmers can benefit from their contributions to society.

Is there anything you can do to help us? The best way to help is to contact the Minister of Agriculture and your MLA to express your concerns about SSCA's funding situation. If enough of us speak out, maybe someone will decide to listen. ●

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President's Message

By Darryl Reynolds
SSCA President

As I sit down to write my report it's hard not to think of the see-saw fall we've all had with record yields, low commodity prices, a wet / challenging harvest, and record high fuel and fertilizer prices. There will be a lot of head scratching this winter with budgeting, rental arrangements and cash flows. This fall reminds me of the 1969-70 years when my father was involved in starting up Poundmaker feedlot in Lanigan, when record volumes of grain was laying about and difficult to sell. I've watched Poundmaker grow from an outhouse on a bare field to today having a promising future with nearly 30,000 head of cattle with an ethanol plant and paying out its first dividends to its investors. It's a reminder that good things can come out of difficult times.

The SSCA is once again faced with a funding challenge. This prompted a meeting with the province where we were told that there was no funding available for "core" or "agronomics" but that the province was re-focussing on "green." This may not exclude us totally from government funding but shifts the request from the Ag. department to Environment and Industry & Resources. It can be argued that we are one of the greenest associations in the province but this may be more a matter of how we package and promote ourselves to the non-farming public. Other funding possibilities are being pursued but some changes are likely in the new year due to a funding shortfall.

Our carbon committee had a lengthy meeting with the Hon. Wayne Easter regarding our concerns over the offset trading on soil sinks. He gave us a good hearing and we have been requested to meet with the Hon. Andy Mitchell's office in Ottawa (pending election results). The province has been slow out of the gate, but they are scheduled to announce their soil sink and offset trading strategy in the near future.

"The feds are likely entrenched with the system they have developed. My views and opposition to the proposed system are well documented so I won't repeat myself, but I feel it has the complexity and lack of common sense only found in the "gun registry program."

The federal government rolled out its offset trading system and the SSCA made a concerted effort to challenge the proposal to the best of our ability at each of the meetings. The Soil Conservation Council of Canada had representation at meetings we were unable to attend. The feds are likely entrenched with the system they have developed. My views and opposition to the proposed system are well documented so I won't repeat myself, but I feel it has the complexity and lack of common sense only found in the "gun registry program." As I pointed out before, we are sitting on a gold mine, but this trading system ensures that farmers may have the surface rights but the mineral rights are being kept by the government. Very little of the total value is likely to reach down into farmers pockets and what does will have so many strings attached that it may not be worth the effort. No matter what we think of the offset system, the SSCA now needs to decide what role it wishes to play in

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Questions You May Want to to Ask Your Federal Candidate

1. Science indicates that human activity is having an impact on the world's climate. The Kyoto Protocol, the first step in addressing climate change, allows the creation and trading of carbon offsets to reduce costs and save jobs. Agriculture could be a major offset contributor to Canada's Kyoto challenge. **Does your party believe that the full value of this contribution should be returned to the farm gate?**

2. Canada has a very challenging commitment under the Kyoto Protocol. Ultimately the taxpayer will be responsible for the cost of meeting this commitment. Agriculture can provide a significant contribution with investment staying in Canada. **Does your party have a plan to maximize Agriculture's potential when the alternative would be to purchase international offsets?**

3. Canada is finalizing its Carbon Offset Trading System. The system provides tools to reduce the cost of meeting Canada's Kyoto obligation. **Is your party committed to ensuring a fair and transparent process in recognizing Agriculture's contribution to meeting Canada's Kyoto challenge?**

Make Hay While the Sun Shines

By Tim Nerbas, PAg
Conservation Agrologist

"Make hay while the sun shines" – now there's an adage with which we are all familiar. It emphasizes that when conditions are right you should make the most of them. This saying is probably a favourite among producers because it makes reference to our most popular topic of conversation, the weather. Weather is perhaps the most significant factor affecting the industry yet it is completely out of anyone's control. So what's a producer to do? Follow the adage: when conditions are in our favour, optimize them.

As of November 1st, most of the province (aside from the brown soil zone) was rated as good to very good for stubble soil moisture. Good stubble soil moisture should be a signal to fertilize in preparation for an average to above average crop. But wait a minute- many commodity prices are at all time lows and the cost of nitrogen is at an all time high. So now what do we do?

It's true. Cash flow on most farms is tight, to put it mildly. However, if we risk the cost of putting seed in the ground, but use zero or very low levels of soil fertility, then we are predetermining disappointing results at harvest time. Then we're right back where we started, an extremely tight cash flow. It's a vicious circle that can be very difficult to overcome.

"Stored moisture is like money in the bank", says Les Henry, Professor Emeritus, U of S. Water is still our most limiting resource growing crops on the prairies. With water we can plan; without it, yield expectations are bleak to say the least (Table 1).

So soil moisture content is telling us that we should be investing in the upcoming crop, but the cost of N and commodity prices are sending very different signals. Here is where a soil test can help. It provides the opportunity to input the high cost of N and then consider some "what if" scenarios using different commodity price expectations. Soil testing allows producers to weigh the risk versus the possible reward.

Tables 2 and 3 show a variety of "what if" scenarios for two different fields. One has canola stubble and the producer is considering growing HRSW in 2006. The second field has wheat stubble and the rotation dictates that canola should be seeded next. The soil profile of this loam soil is full of moisture and there is only 3 ½ inches of growing season precipitation. Using the PRS nutrient forecaster software supplied by Western Ag Labs, a number of possibilities can be considered for these fields.

By examining scenarios such as these, producers can estimate cash flow for the upcoming year. Many people get frustrated at this stage because there are too many factors beyond their control. However producers can lock in prices for part of their production if it is profitable. And how do you know if it is profitable? By knowing the cost of production. Therefore, soil testing is one tool that helps maximize profitability.

Soil testing allows us to determine what is required to grow a certain

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Table 1: Plant available water stored per foot of moist soil for various soil textures.

Soil Texture	Inches of soil water per Foot of moist soil
Sand	0.75 inches
Loamy Sand	1.00 inches
Sandy Loam	1.25 inches
Loam	1.50 inches
Clay Loam	1.75 inches
Clay	2.00 inches

Table 2: 40¢ and 50¢ nitrogen, HRSW on canola stubble, 8" total water:

Return over fertilizer cost using 40¢ nitrogen			
Fertilizer cost	Yield	Return Over fertilizer Cost $4.50 wheat	Return over fertilizer cost $3.00 wheat
$20.00	32.7	$127.21	$78.10
$25.00	38.1	$146.65	$89.30
$30.00	40.6	$152.62	$91.80
$40.00	44.0	$159.26	$92.00
Return over fertilizer cost using 50¢ nitrogen			
Fertilizer cost	Yield	Return over fertilizer Cost $4.50 wheat	Return over fertilizer Cost $3.00 wheat
$20.00	28.4	$107.90	$65.20
$25.00	34.2	$129.18	$77.60
$30.00	38.4	$142.76	$85.20
$40.00	42.7	$152.76	$88.10

Table 3: 40¢ and 50¢ nitrogen, canola on wheat stubble, 8" total water:

Return over fertilizer cost using 40¢ nitrogen			
Fertilizer cost	Yield	Return over fertilizer cost $7.00 canola	Return over fertilizer cost $5.00 canola
$20.00	21.8	$132.72	$89.00
$30.00	32.8	$199.95	$134.00
$40.00	39.6	$237.03	$158.00
$50.00	42.5	$247.39	$162.50
Return over fertilizer cost using 50¢ nitrogen			
Fertilizer cost	Yield	Return over fertilizer cost $7.00 canola	Return over fertilizer cost $5.00 canola
$20.00	18.3	$108.41	$71.50
$30.00	28.0	$166.32	$110.00
$40.00	35.8	$210.38	$139.00
$50.00	40.4	$233.01	$152.00

East Central Region Welcomes New Director

By Juanita Polegi, PAg
Assistant Manager & SE Conservation Agrologist

"Farming isn't static. There is always change. You can't farm today like you did in the 70's & 80's". That's the philosophy by which Keith Stephens, the new SSCA Director representing the East Central Region, operates. He is living proof of that belief. Keith farms in the Thin Black soil zone near Balcarres, where the fields are relatively level with few stones and not many sloughs. Some of his land has been in the family since 1904.

He grew up on a grain farm with a 50 -50 rotation. Since he began farming over 30 years ago, the farm has changed and evolved to a continuous cropping system where yield monitors and computers play a large role in supporting the decision making process.

Just as Keith began his farming career in the early '70's, a Saskatchewan Farm Management course was offered in his area. Keith indicated that the course had a significant impact on his farm as some of the decisions made while attending the course set the destiny of the farm for several years. It was a time when there was a large surplus of cereal grains so as Keith said, "the crunch was on". Farmers had to be innovative in dealing with the huge inventory of grain. While attending the management course, he worked out a plan for going into hog production. The numbers looked good. Keith laughed as he recalled his findings. "On paper, the numbers said we should be able to make a fortune! So we went ahead as if it would!"

Keith built his first hog barn in 1973-74. For the next 22 years, he ran a farrow-to-finish operation. It was an interesting time as the pig industry grew in the province. Keith considers himself fortunate to have had the opportunity to serve on the Pork Production Committee and later on the Hog Board and different research committees. He describes the experience as a valuable education. "It was a privilege to meet so many good people in the provincial hog industry and to have that kind of exposure to new ideas". Keith indicated that some of the successes the industry had during that time included the development of the Swine Design Trade Show and securing Dr. John Patience as the head of the Prairie Swine Centre.

Keith Stephens standing beside the yield monitor mounted on his MF860 combine.

While the hogs were Keith's primary responsibility, the grain operation was in partnership with his uncle. By the mid '80's, however, Keith began making the decisions in the grain operation. Keith appreciates that his Uncle was willing to let him try new things.

The first big change was the shift to continuous cropping. In 1983, he saw the ditches fill with soil from the summerfallow fields. That wasn't the first time the soil moved as it always seemed to be windy during seeding. Keith described the movement of the soil off the fields as "pretty sickening". By that time, farmers were finding that crop yields on summerfallow were uneven as so many nutrients had been mined from the soil. Then when the agricultural researchers and economists were showing that crops could do as well or better on stubble, he decided he had to try something different. He then updated much of the farm equipment and tried seeding some crops into stubble. 1986 was the last year for summerfallow (until 2005 when a field was just too wet to seed). Keith believes he had some luck on his side when he first seeded into stubble as those were years of good moisture. He doesn't believe he would have had the same success had he tried stubble cropping in 1987 or 88 when moisture was so limited.

The second change occurred when Keith introduced some new crops into the rotation so that he wasn't always seeding cereals into cereal stubble. Keith first grew lentils in 1984. The following year, he sold his lentil crop for 55¢ / lb! This was in the days when a handshake with the truck driver was all that was needed to ensure that a cheque for the grain would show up in the mail.

In 1986, Keith grew his first crop of peas. That crop worked out very well, too. He grew lupins one year and a few acres of beans for several years. The beans didn't perform very well, but while he had the pigs, he was able to feed the beans to them.

The next change to the farm was the addition of a computer. Keith had one of the first personal computers in the

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2006 Direct Seeding Conference:
"Managing Risk for the Future"

February 15 & 16, 2006

Queensbury Centre, Regina Exhibition Park, Regina, Saskatchewan

WEDNESDAY, FEBRUARY 15

8:00 a.m. Registration and Coffee in Trade Show

9:30 a.m. Opening Remarks

9:45 a.m. Keynote Address:
"Pride and Promise: Growing our Community" - Arlene Jorgenson, Saskatoon, SK

SESSION #1 SOIL CARBON - $$ IN YOUR POCKET?

10:30 a.m. "The Politics & Policies of Soil Carbon" - John Bennett, SSCA, Biggar, SK

10:55 a.m. "Current Market Activity & Status in the World" - Edgar Hammermeister, PAg, SSCA, Alameda, SK

11:20 a.m. "The Science Behind Carbon Sinks" - Dr. Brian McConkey, AAFC, Swift Current, SK

12:00 p.m. Lunch

1:15 p.m. SSCA Annual Business Meeting

SESSION #2 CROP NUTRITION MANAGEMENT

2:30 p.m. "Philosophy of Soil Testing" - Dr. Adrian Johnston, PAg, PPIC, Saskatoon, SK

2:50 p.m. "Implications of Cutting back on the Macronutrients" - Stu Brandt, AAFC, Scott, SK

3:10 p.m. "Micronutrients: When Should we Use Them?" - Dr. Rigas Karamanos, PAg, Westco Fertilizers, Calgary, AB

3:30 p.m. "Managing Fertility & Rotations: A Producer's Perspective" - David Murray, Producer, Gainsborough, SK

4:00 p.m. Coffee in the Trade Show

4:00 p.m. Poster Session

4:30 p.m. Agriculture in the Classroom's (AITC) "Youth Vision for Agriculture: A Secondary School Environment Challenge"

5:00 p.m. Trade Show Closes

6:00 p.m. Awards Banquet

8:00 p.m. Bearpit Sessions

1. Integrated Pest Management
2. Fertility Management
3. Soil Carbon
4. Direct Seeding: The Early Years

THURSDAY, FEBRUARY 16

SESSION #3 IMPROVING EFFICIENCIES

8:30 a.m. "Basing Fertility Applications on Soil Moisture" - Dr. Bing Si, U of S, Saskatoon, SK

8:50 a.m. "Low Tech Efficiency Improvements" - David Larsen, PAg, SAF, Moose Jaw, SK

9:10 a.m. "Guidance Technology" - Dr. Ron Palmer, U of R, Regina, SK

9:30 a.m. "Using GPS on My Farm" - John Wright, Producer, Swift Current, SK

10:00 a.m. Coffee in Trade Show

SESSION #4 MANAGING NEW CROP TECHNOLOGY

10:45 a.m. "Development of Clearfield Varieties & Marketing" - Dr. Bert Vandenberg, PAg, U of S, Saskatoon, SK

11:05 a.m. "Clearfield System Resistant Weeds" - Bruce Murray, PAg, Manitoba Ag, Carman, MB

11:25 a.m. "Clearfield Crops in Your Crop Rotation" - Eric Johnson, PAg, AAFC, Scott, SK

11:45 a.m. "Producer Perspective on the Clearfield System" - Maurice Berry, Producer, Carievale, SK

11:55 a.m. "Producer Perspective on the Clearfield System" - Blair Harris, PAg, Producer, Yorkton, SK

12:05 p.m. "BASF Perspective" - Jeff Bertholet, PAg, BASF, Saskatoon, SK

12:30 p.m. Lunch

SESSION #5 OILSEED AGRONOMY

2:00 p.m. "Adaptability of Oilseeds" - Bill May, AAFC, Indian Head, SK

2:20p.m. "Growing Oilseed Flax for Fibre " - Dr. Byron Irvine, AAFC, Brandon, MB

2:40 p.m. "Managing Diseases of Oilseeds" - Dr. Randy Kutcher, AAFC, Melfort, SK

3:00 p.m. "Harvestability of Oilseeds" - Bryan Nybo, PAg, Wheatland Conservation Area, Swift Current, SK

3:20 p.m. Closing Address: "That Wasn't Supposed to Happen!!!" - Noel McNaughton, Edmonton, AB

3:35 p.m. Draw for Conference Prizes

You Must Be There To Win!

2006 DIRECT SEEDING CONFERENCE REGISTRATION INFORMATION

To Register Call 1-800-213-4287
or (306) 695-4233

Name: _____

Address: _____

City: _____

Prov: _____

Postal Code: _____

Telephone: _____

Fax: _____

RM# _____

Representing: _____

Producer: **Yes** ☐ **No** ☐

SSCA Member: **Yes** ☐ **No** ☐

SSCA Members

	(GST Included)	
Before February 3, 2006		
Includes: all meals & conference proceedings.	$90.95	☐
Additional Farm Unit Members Includes: all meals & no conference proceedings.	$80.25	☐
After February 3, 2006 Includes: all meals & conference proceedings.	$112.35	☐
Additional Farm Unit Members Includes: all meals & no conference proceedings.	$101.65	☐

Non-Members

Before February 3, 2006 Includes: all meals & conference proceedings.	$112.35	☐
After February 3, 2006 Includes: all meals & conference proceedings.	$133.75	☐

Single Day

SSCA Members

Includes: lunch & conference proceedings.	$69.55	☐
Additional Farm Unit Members Includes: lunch & no conference proceedings.	$58.85	☐

Non-Members

Includes: lunch & conference proceedings.	$80.25	☐

Extras

Extra Banquet Tickets	$32.10	☐
Extra Conference Proceedings	$10.00	☐

I would like to support the SSCA by becoming a member:
(*no GST on Membership Fees)

3 year membership*	$100.00	☐
Additional faming unit member:	$25.00	☐

Total Amount Enclosed $ _____

Please make cheques payable to:
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Box 1360, Indian Head, SK, S0G 2K0
Fax: (306) 695-4236

EAST CENTRAL REGION WELCOMES NEW DIRECTOR ... CONTINUED FROM PAGE 5

area. In fact, PCs were so rare that he had to go to Calgary to purchase it. Keith said that after all these years, there is no one big decision based on the computer that he can point to that has shown great profit for the farm but he said it has certainly helped with many little decisions.

The latest big change to the farm is the introduction of a GPS system and yield monitor to the combine. It cost Keith about $10,000 to retrofit his combine with these devices. Like the computer, he is not expecting these items will make huge amounts of money for the farm but they will help with some of the little decisions. For instance, with his combine monitor, he can now check the yield response to fungicide on peas & lentils. He will also be able to determine if a yield response is achieved by applying $P_2 0_5$ when seeding peas and lentils. "If I don't see it, it will be tough to justify $8 / ac for those crops. On 700 ac, that's a savings of $5600". Keith indicated that before he makes any change to his fertilizer management, though, he will study the literature and talk to the researchers.

Keith is no stranger to serving on boards. As already mentioned, he has served on several committees for the pork industry. He has been a school trustee and is currently a councilor for his local rural municipality. Keith has also been a member of the SSCA for a number of years. He decided to let his name stand for the Directorship after Don Horsman, former East Central Director, asked him to consider it. Keith said that the SSCA is proving to be an interesting group with which to work. "I enjoy meeting with the other directors, bouncing off ideas and hearing their opinions".

Redefining the SSCA is going to be an interesting challenge for Keith and his fellow Board members. "The SSCA has been remarkably successful promoting direct seeding but I don't expect to see further dramatic growth in that area. We have to discuss not just how to conserve our soils, but how to conserve Farming as a viable enterprise," he said.

The Carbon issue is one area in which Keith sees the SSCA continuing to work and make progress for a long time. It has the potential to generate funds for Farmers and it fits in with the soil conservation mandate. Keith feels that no one organization can be all things to everyone. The SSCA might have many of the right answers but people need to be educated before those ideas become accepted or adopted. He hopes he can be a part of that.

Keith farms with his wife Wendy. Their daughter, Danielle is in her second year at the College of Agriculture, U of S and their son, Ian is finishing his Grade 12.

The SSCA is pleased to have Keith on the Board of Directors and is certain that the farmers of the East Central Region will be well represented by him. Welcome aboard, Keith! ●

Carbon Trading 101

By Laura Reiter, PAg
SSCA Director, NW

We all know that farmers are a busy lot. Even those of us lucky enough to not have to look after animals in the bitter cold of winter still have an office worth of paperwork to look after. Sometimes its difficult to make the time to learn about new opportunities that are available to us when we have our hands full with our current ventures. This coming year, there will be a new commodity available for us to market and it doesn't require us to do much more than we are already doing. We just have to make the time to learn about it. Interested? Read on.

As a bit of background, when the Government of Canada ratified Kyoto, they agreed to reduce Canada's Greenhouse gas (GHG) emissions. There are many ways that this can be achieved. We can reduce the GHGs that we put into the atmosphere or we can increase the amount of gases that we remove from it. What has this got to do with agriculture and you in particular? Agriculture will play a role in both of these methods and in doings so, we will have a marketable commodity.

Our commodity will be a carbon credit. These credits are created when a Project Proponent gets a project certified by the Project Authority, otherwise known here as the Government of Canada's Department of the Environment. Sounds technical, and it likely will be a bit complicated. Basically, it means that a company or group gets a project lined up and goes to the government with it. The government will check to see that the project follows the guidelines they have provided. If it meets the criteria, they will approve it and the project can go ahead. Offset credits will be issued as result of the actions of the project.

Depending on what the project is doing, two types of offsets can be created in agricultural operations. We will have "emission reduction credits" and "removal credits". Removal credits can be compensated for one of two ways. These credits can be for the permanent or temporary removal of greenhouse gases. Each type will have different liabilities associated with it. As such, they will be worth different amounts in the market.

An Offset Credit (OC), is a credit for the permanent removal of 1 tonne of carbon dioxide equivalent (CO_2e). There will be liability involved with this type of credit. Two farm examples of OCs come to mind.

"This coming year, there will be a new commodity available for us to market and it doesn't require us to do much more than we are already doing."

"Our commodity will be a carbon credit. These credits are created when a project proponent gets a project certified by the project authority, otherwise known here as the Government of Canada's Department of the Environment."

· One example of a project that would produce OCs is the capture of methane from a livestock lagoon. This project would reduce the amount of greenhouse gases released into the atmosphere and result in permanent credits being issued.

"As with any new market, the carbon offset market has a bit of an uncertainty. There is a bit of jostling to see who the big players will be, what the market will look like, and what monetary value will be associated with these different offsets."

· A second kind of project that could produce OCs might involve the storing of CO_2 as organic carbon in the soil by using low disturbance seeding methods or seeding permanent cover on farm lands. The result is an increase in the amount of CO_2 that is removed from the atmosphere therefore credits can be issued. In this case, there would be a set period of time that the land would have to remain under this type of care. This time period will be set by the government but may be up to 30 years. For this, you would be issued an OC.

The second example could also be used for the other type of credit that will be issued. A Temporary Credit (TC) could be issued for the same type of project only with much less liability attached to it. It will be issued on a year by year basis therefore there is no time period that the practice must continue. These credits will be for what you have already done in the past year so a farmer will carry little risk. If a change in tillage practices is required, the farmer would not have to go out into the market and buy a credit to replace the one destroyed as would be needed if a change were needed after being issued an OC.

As with any new market, the carbon offset market has a bit of an uncertainty. There is a bit of jostling to see who the big players will be, what the market will look like, and what monetary value will be associated with these different offsets. The government will have their project authority office open in the new year. The guidelines are still being finalized.

With the new year fast approaching, farmers may find there are project proponents that are looking to sign up participants. The biggest thing a farmer needs to watch for is the type of credit you are being issued as well as how much risk you are taking on.

Farmers already carry lots of risk. Be careful what you agree to.

New Northeast Regional Director – Stacey Moskal

By Garry Mayerle, PAg
Conservation Agrologist

The Saskatchewan Soil Conservation Association would like to introduce Stacey Moskal as the northeast regional director replacing Tom Mathieson.

Stacey is part of a family farm operation at Brooksby just north of Star City. He farms there with his parents Allan and Melody and his brother Trent who comes home to help. Stacey has been actively involved in the farm since his high school years. In 1998, he completed his BSc. in Agriculture with a major in Ag Economics. At that time, he came back to the farm full time. In the last few years his Dad has been taking a long winter holiday and the decision making has become a joint effort.

The Moskals seed over 5000 acres a year. Most of their land is loam but they do farm some lighter textured, very fine sandy soil. They grow wheat, barley, oats, canola and pulses. They also have some acres in seed alfalfa and alsike clover. They purchased an air drill in the spring of 1998 and by the following cropping season, they were 1 pass seeding. The big benefits they found at the time were reduced fuel costs, and no wind erosion on their light land. They also saw that they needed less equipment, put less hours on the tractors, and could seed more ground with the same man power.

One of the areas they emphasize to make direct seeding work is good residue management and they use a heavy harrow to do that. In the last few years they have moved to rotary combines and that has reduced the amount of residue they have had to deal with. However, Stacey says they still find benefits with heavy harrowing. It helps to blacken up the fields and deal with the piles of residue washed up in the pot holes or where the combines stopped.

Anyhdrous ammonia has been the Moskals main form of nitrogen for many years. They run midrow banders on their air drill. They have been pretty happy with these coulters but one of the disadvantages Stacey finds in wet seeding conditions is that closure behind the disk is not as good and there is more gas loss. He has contemplated

Stacey Moskal

switching to liquid fertilizer for this reason. Also, liquid would make it easier to have different blends for each field. In an effort to fine tune their seeding system, Stacey says they are going to switch next spring from the one inch vertical knife to the ¾ inch knife. In their experience, the 1 inch knife keeps more straw out of the seed row which is an advantage when encountering spring frosts. However, it pulls a lot heavier than the ¾ inch knife. With rising fuel costs, Stacey sees an advantage to reducing draft.

One of the longer term benefits to reducing tillage that Stacey is seeing on their farm is that their soil has increased nitrogen mineralization. They are part of the Northeast Agriculture Research Foundation and the project Dennis McIntosh and Omega Research have been implementing. Because their soil is mineralizing or releasing more N they can cut back on N fertilizer use and still maintain yield and protein levels.

Stacey also mentions that with time in reduced till, they have gained some significant reductions in weed control costs. He cites reduced in-crop wild oat expenses in the drier crop years of '02, '03, and '04 although this past cropping season was so wet that they had more wild oats). He attributes the reduction in wild oat pressure in part to the use of glyphosate both in the spring and the fall. They are pre-harvesting over half of their acres including a lot of their canola acres.

As the Moskals changed their cropping system, they appreciated the information SSCA has provided particularly through the annual conference. As Stacey joins the board he is especially interested in the fact that SSCA has been leading edge on the soil carbon issue. He is excited to be involved in new developments in that area. He feels that SSCA can lead the way for Saskatchewan farmers to receive their fair share of the environmental benefits direct seeding has produced.

REQUEST FOR SUBMISSIONS

Do you have ideas or comments on the conservation of our land resource? We would like to print them in future issues of the Prairie Steward. Pertinant photographs would be appreciated. Please forward to:

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Utilizing Solid Cattle Manure in a Direct Seeding System

ByRich Szwydky, PAg
Conservation Agrologist

One of the biggest challenges all cattle producers in a low disturbance seeding system face is how to maximize the economic benefits of solid cattle manure through surface spreading. Howard Peters who farms northeast of Osler, Saskatchewan says he shares this problem that plagues the cattle industry. Under the name Star Valley Farms, Howard and his family keep a dairy herd of approximately 300 cows. He states manure in his operation can pile up in a hurry, and estimates his operation produces approximately 1,500 – 1,800 Mt of fresh cattle manure (including bedding straw) which must be spread onto his land base.

The Peters seed approximately 1,800 acres annually. They began direct seeding in 2002 when they purchased a 30 foot John Deere 1820 air drill on 10 inch row spacing with a 1910 model air cart. They use an Atom Jet side band opener set-up to deliver dry fertilizer. Their crops grown in the rotation include wheat, canola, peas and barley for seed and silage. Since beginning direct seeding, Peters says he has taken a slightly different approach to manure management.

Peters views solid cattle manure as a significant resource on their farm because of its nutrient and soil amending qualities. The high cost of energy and fertilizer has compelled him to apply the manure more effectively. To do this, the Peters use many sound manure management practices to help maximize the economic benefit of applying solid cattle manure on their farm

Some of these manure management practices include:

1) Manure nutrient analysis to determine nutrient composition of manure

2) Soil testing to determine nutrient status of soil

Rear view of the Bunning Lowlander Range manure spreader. PTO driven vertical beaters operate at roughly 400 revolutions per minute.

3) Matching crop nutrient demand to total nutrients applied (in manure and commercial fertilizer)

4) Strategy for application - applying manure at proper rates and frequency

5) Avoiding excessive manure application to prevent overloading the soil

Peters says one problem related to manure nutrient analysis is that the nutrient composition varies from load to load. Changes in feed composition, rations or even climate can cause significant changes in manure quality. Another problem with solid cattle manure is the variable rate at which nutrients are released. Solid cattle manure has a higher percentage of nutrients in the organic form that must go through the mineralization process in order to be converted to the inorganic form – the form that is plant available.

University of Saskatchewan soil science researcher Jeff Schoenau states cattle penning solid manure that contains lots of straw could have 10-20% of the nitrogen available immediately in the inorganic fraction. The remainder must be mineralized from the organic fraction and this process could take up to several

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MAKE HAY WHILE THE SUN SHINES ... CONTINUED FROM PAGE 4

amount of production. Does the fertility cost make sense? If you invest $1and get $2 in return, that is generally considered a good investment. For instance in Table 2, wheat is being seeded on canola stubble. With 40¢ N and $4.50 wheat or $3 wheat, investing $25 vs. $20 appears to be a good decision. The additional $5 investment could return $19.44 ($146.65 – $127.21) or $11.20, respectively. That's a return of more than 2:1 even if the value of wheat is only $3.

What about 50¢ N and $4.50 or $3 wheat (Table 2)? We see the same $25 vs. $20 investment makes a $21.28 ($129.18 -$107.90) or $12.40 return, respectively. Yes it is true that our overall return is lower, but on this field, even with 50¢ N, it makes economic sense to invest the additional $5. Yes, commodity prices will always fluctuate. Yes, yields can vary due to climatic conditions. But as a business owner, it is vital to look at a variety of 'what if' scenarios to ensure the business moves forward. This can take out some of the guessing.

We all know a few timely rains during the growing season can often make or break a crop. But remember, stored moisture is like money in the bank and you should make hay while the sun shines.

years. Peters says manure testing will give him an indication of what nutrients are being applied to the field. The test, however, does not determine the rate of plant available nutrients in any given year.

For this reason, Peters likes to soil test his land base annually, to determine the nutrient capacity of the soil. He says it is much easier to make nutrient recommendations from soil tests. Depending on the crops grown and the pre-set yields chosen, Peters uses various commercial fertilizer blends to top up the nutrients that are lacking. He has noticed an increase in P concentration on the manure applied land and for this reason he says he may drop phosphorous from the fertilizer blend altogether.

Schoenau states most crops require an N:P ratio of around 10:1. Solid cattle manure characteristically has a high P content and, as such, could have an N:P ratio of around 3:1 to 4:1. He is not surprised in the P buildup on continuous manure applied soils.

So when does Peters spread the manure? He says the majority of spreading is done in late fall or early spring, prior to seeding. He realizes that spreading solid cattle manure without full incorporation increases the risk of manure nutrient losses to the atmosphere but he does achieve some incorporation with his seeding operation.

To spread manure, the Peters use the 7.5 Mt Bunning Lowlander Range manure spreader with side extensions. The extensions allow them to heap up the spreader to haul approximately 9-10 Mt of solid cattle manure per load. The width of spread of the manure provided by this particular model is approximately 30 feet.

A key aspect of the spreader is the PTO driven vertical beaters located at the back of the machine. The beaters operate at a speed of approximately 400 revolutions per minute. The floor of the manure spreader has a 16-19 mm marine chain, which is pre-stretched and rust resistant. Two large bolts located at the front of the machine maintain the tension on the floor chain. Located in front of the beaters is a hydraulic slurry door, which opens vertically.

The application rate can be controlled by three means, including ground speed, opening size of the slurry door, and speed of the hydraulically driven live floor. Regardless of the application rate, the end result is a consistent manure spread that is uniform and devoid of any solid piles. This is ideal for cattle producers who direct seed, as a secondary operation to incorporate solid manure is not required. The uniform spread of the Bunning system also enables the Peters to apply the solid cattle manure on their hay land and pastures to meet nutrient requirements.

Howard Peters spreading manure using the Bunning Lowlander Range manure spreader.

Table 1. Average nutrient content of fresh cattle pen manure samples in Saskatchewan.

	Fresh cattle manure (with straw bedding) lbs / ton
Nitrogen (N)	13
Phosphorous (P)	4
Potassium (K)	12
Sulphur (S)	3

SAFRR Nutrient Value of Manure (Note: multiply P by 2.3 to convert to P205; Multiply K by 1.2 to convert to K20)

Peters says he makes a judgment call regarding how much manure gets spread on each field. If the fields are low in nutrients he will go with a heavier spread. To accomplish this, he adjusts the tractor ground speed. A common application rate for most fields is approximately 5-6 Mt per acre. Peters is very careful not to over-apply the manure and overload the soil with nutrients.

Karen Bolton, manure management specialist with SAFRR, states the over-application or repeated application of solid cattle manure at rates, which greatly exceed the crop nutrient removal, on any given parcel of land can cause many environmental problems such as:

1. Transport of nutrients to ground water and surface water bodies through leaching and overland flow.
2. Increase nutrient losses into the atmosphere through denitrification and volatilization.
3. Accumulation of manure salts especially in areas of poor drainage, which could lead to the development of saline and sodic soils

The Bunning spreader has the option of coming with load cells, which can provide digital readouts and printouts of load weights and rates per acre. Having an on-board computer can help producers meet regulations with effective manure application while avoiding over-application, especially around environmentally sensitive areas.

The Peters are very happy with the Bunning manure spreader. Peters says corral cleaning and manure hauling are much quicker with the Bunning system because of the increased capacity, durability and speed of spread. He likes the consistency and fineness of the spread, and says the spreader leaves no piles in the field. As a result, he can direct seed on the manure-applied land without having any manure plugging issues with his John Deere drill.

Peters states the biggest challenge he has is complaints from neighbours regarding the manure smell. He hopes one day suitable technology will be developed for placement of solid cattle manure below the surface with minimal disturbance. This would help minimize the nutrient losses, address the smell issue, and retain the soil physical properties provided by direct seeding. Until then Peters says he will utilize all the manure he can resource. ●

PRESIDENT'S MESSAGE ... CONTINUED FROM PAGE 3

the new federal offset world. This will take up a considerable amount of our time and grey matter over the winter months.

We also sent our fourth delegation to Washington, DC to meet with our US counterparts. It is interesting to watch what is going on down south as they are not hindered by the Kyoto protocol which sets deadlines and unattainable targets for signatories. Reading between the lines, there is some thought that the US is exploring soil carbon as a means to replace revenues to their farmers for any negotiated cuts to their subsidies at WTO. The WTO negotiations will get a lot of press but the reality is that countries like the US will likely just shuffle the deck, and the net dollars in farmers' pockets will stay relatively the same.

I had an interesting visit this past spring when two New Zealand sheep farmers stopped at the farm for a visit. One of their sons had helped at our farm the previous harvest and they were touring around visiting farms in Canada and the US. These gentlemen were both in their 60's and near retirement. When I drove up, the first question they asked me was "Canada's a Kyoto signatory?" "Yes." Then they asked, "Well, who owns all your soil carbon?" as they swung an arm around at our vast prairie. "I don't know, but we're working on it" was all I could answer.

"Are we going to look back one day and wonder why the carbon is worth 10X our land value and the land still needs to be looked after with all the related expenses?"

We figured that NZ had about 10% the soil carbon potential of Sask. They had record high sheep prices and land was trading for $3,000 Can. per acre. The number one agricultural issue last year ... Soil carbon! The NZ federal government nationalized the soil sink and all the value went to the government. Their ag media and farmers went to war with their own federal government to the point of civil disobedience and requiring government officials to get court orders to access privately owned land. These two were very well informed on the issue as are all farmers in NZ. They stated that we were sitting on a gold mine. I know. If we'd had a coordinated effort and half the moxie of these two NZ farmers, I think we could have come out with so much more on the carbon ownership issue. I often think of the dairy industry when soil carbon comes up, where about 40 years ago, dairy quota was given away to farmers for free. Today the quota is worth ten times the value of the cow and the cow still needs to be fed, milked and cleaned up after. Are we going to look back one day and wonder why the carbon is worth 10X our land value and the land still needs to be looked after with all the related expenses? Another question is, if the government has more value invested in our land than we do, will they allow us to freely choose what we do with the land or will this be dictated to us as well? Some points to ponder!

"... will they allow us to freely choose what we do with the land or will this be dictated to us as well?"

If these issues are of interest to you, be sure to attend our annual conference in Regina, Feb. 15-16/06 where we plan to have an extended soil carbon session as well as our bear pit after the banquet where all your questions about soil carbon can be answered. I look forward to seeing you there!

http://www.ssca.ca

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