In traditional fine prairie style, Saskatchewan welcomed the Soil Conservation Council of Canada (SCCC) directors to Regina and Indian Head for the summer board meeting held in early July.

Bruce Neill, Agroforestry Division Manager with the Prairie Farm Rehabilitation Administration (PFRA), graciously offered the facilities at the PFRA Indian Head Shelterbelt Centre for the two-day meeting.

PFRA is celebrating its 70th anniversary in 2005 and took the opportunity to sponsor a lunch for the SCCC board. Bernie Ward, Director Ag-land and Agroforestry, visited with board members and brought an anniversary cake that was shared with the board over lunch.

Also attending the board meeting were Carl Neggers, PRFA Director General and Bill Harron, Head, GIS Unit from PFRA head office. Bill and Carl explained the new role proposed for PFRA in the National Agri-Environmental Service (NAES). This generated much discussion among the meeting participants as to how SCCC and NAES could collaborate in developing future environmental stewardship programs for Canada’s producers.

During the two-day meeting the board took the opportunity to visit the Motherwell Historic farm near Abernethy and the large modern grain farm of local Indian Head-area farmer, Maurice Delage.

The following day included a tour of the PFRA Shelterbelt Centre and the farm of long-time conservation farmer Jim Halford. The Halford farm is also the manufacturing site of the well known Conserva Pak Seeding System developed by Halford over the past 20 years.

The meeting concluded with a great prairie BBQ at the farm of former SCCC director/president – Gerry Willerth.
Saskatchewan pilots carbon credit program

After years of discussions, the Saskatchewan Soil Conservation Association (SSCA) has signed an agreement with a recently announced Environment Canada initiative to trade agricultural soil carbon.

This historic pilot project is the first agricultural soil carbon trade in Canada. Over the next three years, the $1,000,000 project, under the Pilot Emission Removals, Reductions and Learnings (PERRL) Initiative, will remove more than 53,000 tonnes of carbon dioxide from the atmosphere through zero-till management.

SSCA developed this project last winter along with farm groups from BC, Alberta, Manitoba and Ontario. Even though this pilot project was limited to SSCA members and members of the other provincial groups, the project is fully subscribed by 205 no-till farmers. Each farmer in the project can include up to 100 hectares (247 acres) in the project.

The provincial producer breakdown is:

<table>
<thead>
<tr>
<th>Province</th>
<th>Count</th>
</tr>
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<tbody>
<tr>
<td>BC</td>
<td>2</td>
</tr>
<tr>
<td>Alberta</td>
<td>29</td>
</tr>
<tr>
<td>Saskatchewan</td>
<td>146</td>
</tr>
<tr>
<td>Manitoba</td>
<td>23</td>
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<tr>
<td>Ontario</td>
<td>5</td>
</tr>
</tbody>
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Through PERRL, the federal government enters into agreements to purchase verified GHG emission reductions from eligible projects on a fixed price per tonne basis. For example, a potential bidder (such as SSCA) can submit a proposal to reduce greenhouse gas emissions by – in this case 53,000 tonnes - between 2005 and 2007 and ask PERRL to pay a specified amount. If a $1 bid, for example, is successful PERRL will pay the seller $53,0000 over the three year period. All contracts for the purchase of verified emission reductions will extend until the end of 2007.

The agricultural consulting division of the accounting firm of Meyers Norris Penney is the project’s “third party verifier.” Verification involves inspecting the fields on at least 20 percent of the farms in the project, plus a review of SSCA’s internal procedures.

As an administrative project, this pilot project is strictly about issues surrounding carbon trading. Some of the questions to be answered include:

- Will farmers sell/lease carbon credits?
- How do we develop the various contractual arrangements?
- What type of information do we need to collect?
- What administrative procedures need to be developed?
- How do you define zero till?
- What are the verification and other administrative costs?
- How do you verify zero till management?
- Will land have to be withdrawn from the project in a particular year because a problem arose that required tillage or burning?
- Will there be problems with misrepresentation?

Field co-ordinator Blair McClinton, (306) 695-4235, mcclinton.ssca@ssca.usask.ca (SSCA executive manager)

Atlantic workshop focuses on feeding strategies

More than 60 eastern Canada cattle producers, attending a highly successful cow/calf feeding workshop at the Agriculture and Agri-Food Canada (AAFC) Experimental Farm at Nappan, Nova Scotia, heard that using better feeding strategies can improve cow-calf herd production and reduce greenhouse gas emissions.

The workshop was organized with the cooperation of provincial governments, AAFC, private consultants, the Eastern Canada Soil and Water Conservation Centre (ECSWCC) and funded through the cattle sector of the federal Greenhouse Gas Mitigation Program for Canadian Agriculture (GHGMP), which is administered by the Canadian Cattlemen’s Association (CCA).

Along with a hands-on look at cattle facilities at the AAFC farm, presentations during the day included a discussion on climate change – the need for promoting sustainable farming practices; the impact of Johne’s Disease and BVD in the cattle herd; forage quality evaluation; cattle cow body condition scoring; round bale feed value; and feeding options and strategies.

The workshop had two main messages - improved feeding management strategies not only benefit livestock production, but also benefit the environment. The speakers described how a properly balanced feed ration can improve feed efficiency and cattle performance. At the same time, improved feed efficiency reduces the amount of methane produced in the rumen and emitted by cattle.

A summary of the talks by the eight cattle and crop specialists is on the Eastern Canada Soil and Water Conservation Centre website at http://www.ccse-swcc.nb.ca/.

Gordon Fairchild, soils specialist, Eastern Canada Soil and Water Conservation Centre

Producers attend feeding strategies workshop at the Ag Canada farm at Nappan, NS
Quebec producers revisit ridge farming techniques

Approximately 162 Quebec farmers attended four thematic days on ridge farming sponsored earlier this summer by the Greenhouse Gas Mitigation Program for Canadian Agriculture (GHGMP). Soil conservation producers Club Action-Billon attempted to revive this practice by launching a substantial operation. Although introduced in Quebec over ten years ago, ridge farming only has a limited number of supporters.

Nevertheless, this technique offers an impressive number of agronomic and economic advantages, particularly limited use of herbicides and fuel, soil conservation, and machinery traffic control to restrict compaction.

As part of the field days, participants attended a machinery demonstration targeting grain corn weeding and ridging. Also, several experts gave presentations on topics ranging from equipment adaptation for ridges, to use of the GR-Max database, and green manure. Also a video on soil life was shown during lunch breaks. These events led to a presentation on greenhouse gases in agriculture, enabling the participants to associate optimal management practices and climate changes.

These activities were funded by the Greenhouse Gas Mitigation Program for Canadian Agriculture.

Field co-ordinator – Carl Bérubé
(450) 245-1075,
cberube@citenet.net

Green manure trial (chickling vetch, variety AC greenfix) at Ferme Longpres in Les Cedres has potential as green manure.

Soil structure discussion in ridge-till at Ferme Longpres in Les Cèdres, QC

People attending conferences on BMP & GHG at Ferme Longpres in Les Cèdres, QC
Ontario demonstrations put manure in a better place

Sidedressing manure – as opposed to inorganic fertilizer – as a nitrogen source in corn may be a viable management option, Ontario farmers are hearing this summer.

Early indications from demonstrations conducted on Ontario farms in 2004 and again in 2005 show the practice can benefit crop production as well as the environment.

The use of nitrogen fertilizer injected in a sidedress application in corn is not uncommon and has been shown to be effective. The nitrogen is provided when it is most needed by the crop and the fertilizer is applied in the root zone making it easily accessible to the plants.

However, there has been limited experience using manure in a similar manner as a sidedress treatment. There’s also concern the treatment might have detrimental effects depending on how and when the manure is applied.

To better evaluate the practice one project supported by the Greenhouse Gas Mitigation Program for Canadian Agriculture (GHGMP) involved test plots with manure injected in a sidedress treatment.

Greg Stewart, with the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) and Bill Deen with the University of Guelph (U of G), who have been monitoring the project, say early indications from 2004 and 2005 demonstrations suggest:

1. Soil compaction (soil bulk density) did not appear to be significantly affected as a result of traffic by the manure tanker.
2. Soil nitrate levels of both the 2000 and 4000 gal/ac treatments taken post harvest were comparable to nitrate levels associated with UAN applications of 53 and 160 lb N/ac.
3. Sidedress manure applications appeared to be equally efficient at supplying the corn crop nitrogen needs as commercial fertilizer (UAN).

Producers were invited to a manure sidedress demonstration day in Perth County in June to see the practice working in the field. Several different toolbar configurations were presented by various companies. Opener or injector design varied significantly among the equipment being demonstrated.

Growers, researchers, and extension agronomists continue to evaluate the strengths and weaknesses of the range of knives, coulters, discs and shanks used with the aim of increasing manure nitrogen-use efficiencies.

The demonstrations, which promote soil conservation and other environmental benefits, are supported through a collaborative effort involving the Innovative Farmers Association of Ontario, Ontario Soil and Crop Improvement Association, Ontario Pork, the GHGMP, OMAFRA and U of G.

Field co-ordinator, Harold Rudy, (519) 826-4217, oscia@ontariosoilcrop.org

Nova Scotia association stages 19 demonstrations

The 2005 season for the Soil & Crop Improvement Association of Nova Scotia (SCIANS) started with the hiring of five summer students and the establishment of nine new demonstration sites for a total of 19 across the province.

This year’s focus is mainly on nitrogen (N) fertilization with new collaborations with the Nova Scotia Agricultural College (NSAC), Organic Agricultural Center of Canada (OACC) and Horticulture Nova Scotia (HortNS). Greenhouse gases (nitrous oxide, methane and carbon dioxide) and soil cores are rigorously sampled on a two-week rotation from most sites. Harvest and weather data will be obtained.

A unique site this season is the organic potato site developed in collaboration with the OACC. The objective is to demonstrate and investigate the effect that forage and composted dairy and/or chicken manure has on nitrous oxide emission in a four-year crop rotation.

Producers were invited to a potato sidedress demonstration day in Truro County in June to see the practice working in the field. Several different toolbar configurations were presented by various companies. Opener or injector design varied significantly among the equipment being demonstrated.

Growers, researchers, and extension agronomists continue to evaluate the strengths and weaknesses of the range of knives, coulters, discs and shanks used with the aim of increasing manure nitrogen-use efficiencies.

The demonstrations, which promote soil conservation and other environmental benefits, are supported through a collaborative effort involving the Innovative Farmers Association of Ontario, Ontario Soil and Crop Improvement Association, Ontario Pork, the GHGMP, OMAFRA and U of G.

Field co-ordinators Sabrina Ellsworth at (902) 893-4116, Rob Michitsch at (902) 896-7092.
Alberta looks at plant stand density as a management tool

Getting your crop off to a good start makes for more competitive crops and healthier stands.

Extensive research at the Alberta Field Crop Development Centre in Lacombe has shown the competitive advantage of heavier seeding rates. Plant populations affect weed competition, disease levels, maturity and yield.

Agronomists and researchers have noticed many cereal, oilseed and pulse fields do not have optimum plant stands – not enough plants per square foot or square metre. The reasons for low plant populations range from poor seeding conditions, to seed quality issues, to seeder problems and other factors.

Alberta Reduced Tillage LINKAGES, with funding from the Greenhouse Gas Mitigation Program for Canadian Agriculture (GHGMP), teamed up with the Agricultural Research and Extension Council of Alberta, Alberta Canola Commission, Alberta Barley Commission, Alberta Pulse Growers and farmers to show the impact of plant stand density in the field.

In the 2005 demonstrations, farmers seeded canola, barley and peas at several different rates. Staff from applied research associations will be taking data from the field scale plots.

Part of the project will look at the mechanical damage that occurs to pea seed as it goes from the bin through the seeder. Seed samples collected at different stages – at the bin, after the auger, before the boot and after the boot – will be evaluated to see if and where damage is occurring.

The bottom line is that healthy, competitive crops help sequester more carbon and increase the effectiveness of herbicides. The extra money invested in high quality seed and increased seeding rates pays dividends.

For more information, site descriptions and maps for these projects check out the Reduced Tillage LINKAGES web site www.reducedtillage.ca.

Peter Gamache, Alberta Agriculture, (780) 422-7922, peter.gamache@gov.ab.ca

New Brunswickers to see Quebec projects

New Brunswick producers will visit the Guay farm in August.

New Brunswick producers interested in soil conservation farming will tour a number of Quebec farms in August.

Carl Berube, field co-ordinator for the Greenhouse Gas Mitigation Program for Canadian Agriculture (GHGMP) in Quebec has arranged several stops in the St.Jean sur-Richelieu area of Quebec for New Brunswick producers August 8 to 12.

The tour will enable New Brunswickers to not only see fields which have been under no-till systems for several years, but also talk to the producers involved. Berube also hopes to have Odette Menard, an agricultural engineer and long time supporter of soil conservation efforts in Quebec, talk about the benefits of earthworms in a no-till system.

Stops will include a visit to the farm of Jocelyn Michon, a Soil Conservation Council of Canada board member, and a tour of a cottage winery and cheese-making facility. As well the tour will see a shelterbelt at the ITA LaPocatiere, Quebec on August 12. For more information on the tour contact the New Brunswick field co-ordinator.

Field co-ordinator - Susannah Banks, (506) 454-1736 nbscia@nbnet.nb.ca
Manitoba zero tillers highlight sustainable production

The Manitoba Zero Tillage Research Association (MZTRA) summer tour focused producer attention on a range of beneficial management practices (BMPs) that support improved crop production, and also ensure the long-term health and sustainability of the land.

The July field day highlighted BMPs associated with zero-tillage and greenhouse gas reduction, such as improved grazing management, off-site watering and salinity control. By showcasing the on-farm adoption of BMP's, the zero till association also hopes to encourage more Manitoba producers to participate in the recently developed Environmental Farm Planning (EFP) process.

A highlight of the tour was the certificate presentation made to the MZTRA for the completion of its own environmental farm plan. The MZTRA farm participated in the EFP process to identify both the positive and negative impacts current management practices can have on the environment.

Field Co-ordinator, Marla Riekman, (204) 725-3939, mztra@mts.net; Team Leader, Dan Hacault, dhacault@mts.net

Manitoba producers listen to one of the speakers during the recent MZTRA field day.
The team that delivers the Greenhouse Gas Mitigation Program for Canadian Agriculture (GHGMP) in British Columbia met in the Fort St. John area this summer for a tour of north Peace River region demonstration projects.

Southern BC field co-ordinator Jayna Houston along with producers Gerard Baars and Bruce Fatkin, all based near Abbotsford, flew to the north Peace to be among about 70 producers, soil and crop specialists, agribusiness and seed processors participating in the Peace Region Forage Seed Associations ‘Annual Summer Tour’.

Leaving from Baldonnel the tour visited six sites for a look at projects where direct seeding systems were used to establish and rejuvenate forage seed crops.

At Arthur and Laurel Hadland’s Gramineaea Seed Farm the discussion centered on low disturbance openers and tillage methods used to establish forage seed fields. The Hadlands have reduced tillage passes and replaced a disk with a new McFarlane harrow to minimize soil disturbance.

Producer Ed Hadland and Alberta Agriculture forage specialist Calvin Yoder updated the group on cutting edge herbicide tools that can be used to make direct seeded grass seed crop establishment more successful.

At PW Seed Farms near Flatrock, Dave Wuthrich described how proper management made it possible to maintain a 17-year-old stand of timothy seed. Wuthrich credited proper fertility and a good aftermath utilization system for the longevity of the highly productive field. While typically timothy stands need to be reseeded every three to four years, this crop was still thriving after nearly 20 years with no rejuvenation.

Each tour stop provided opportunity for a good exchange of ideas and exposure to technology that can be used in any part of the province. This was one of six summer events the BC GHGMP Team has planned to showcase a range of beneficial management practices.

Field co-ordinators, Julie Robinson, (250) 782-4501, prfa@pris.ca Dawson Creek; and Jayna Houston, (604) 556-3732, jayna@abbotsfordsoilconservation.com, Abbotsford.
Newfoundland tours planned for September

Farmers in Newfoundland and Labrador will be able to tour several nutrient management and soil conservation sites this September.

Organized by the Greenhouse Gas Mitigation Program for Canadian Agriculture (GHGMP) in Newfoundland and Labrador, producers will get a first hand look at eight different projects.

Demonstration sites to be toured include:
- Nutrient management planning – one project: blueberries
- Alternative nutrient sources – two projects: rutabaga/cabbage and blueberries
- Reduced tillage – two projects: mineral soil and peat soil
- Green manuring – three projects: commercial vegetable farm and organic farm

Among the demonstrations sites located throughout the province, six are a continuation of projects established in 2004, while two are new projects this year. The projects are intended to demonstrate production practices that not only benefit crop yield, but also help reduce greenhouse gas production.

Also, as part of the GHGMP education and awareness program, a display booth will be available for viewing at various agricultural exhibitions in the province this year.

For more information on upcoming field tours contact the provincial field co-ordinator.
Field co-ordinator, Ann Marie Whalen, (709) 747-1378, horticulture@nf.aibn.com

Information Resources

For more information on a wide range of soil conservation and greenhouse gas mitigation programs across Canada, visit the following Web sites:

- Soil Conservation Council of Canada
  http://www.soilcc.ca/
- Newfoundland Labrador Federation of Agriculture
  http://www.nlfa.ca/ghgmp.htm
- Soil and Crop Improvement Association in Nova Scotia
  http://www.scians.org/
- Eastern Canada Soil and Water Conservation Centre
  http://www.ccse-swcc.nb.ca
- Quebec: Agri-Réseau
- Ontario Soil and Crop Improvement Association
  http://www.ontariosoilcrop.org
- Canadian Cattlemen’s Association
  http://www.jpcs.on.ca/biodiversity/ghg/index.html
- Saskatchewan Soil Conservation Association
  http://www.ssca.ca
- Alberta Reduced Tillage Linkages
  http://www.reducedtillalg.ca
- Focus issue of Agri-News
- Abbotsford Soil Conservation Association
  http://www.abbotsfordsoilconservation.com
- Peace Region Forage Association
  http://www.peaceforage.bc.ca/about.htm
- Manitoba Zero Tillage Research Association
  http://www.mbzerotill.com
- Innovative Farmers of Ontario
  http://www.ifao.com

Upcoming issues

Five issues of The Protector newsletter will be produced during the year. Electronic newsletters will be produced in April, July and September, and printed versions of the newsletter will be produced in November and January. The Protector newsletter will also be posted on the SCCC Web Site at: www.soilcc.ca

Feedback

The SCCC communications committee would like to get your thoughts on this current web–based version of The Protector newsletter. With your views on the content and frequency of future newsletters, please contact Jean Louis Daigle at the Eastern Canada Soil and Water Conservation Centre by email at jdaigle@umce.ca or by phone at (506) 475-4040.