

# THE protector



AUTUMN 2006

SOIL CONSERVATION COUNCIL OF CANADA  
CONSEIL DE CONSERVATION DES SOLS CANADA



## Canadian soil conservation efforts showcased to international congress

The weather and prairie hospitality combined to provide a memorable event for about a dozen representatives of an international soil and water conservation organization which held its week-long annual meeting and conference in southern Saskatchewan in mid-July.

The event, hosted by the Soil Conservation Council of Canada (SCCC), was the first ever congress held in Canada of the Confederation of American Associations for the Sustainable Production of Agriculture (CAAPAS).

Countries represented at the event included Argentina, Brazil, Chile, Uruguay, USA and, Canada. Delegates from Mexico and Paraguay had also planned to attend the event but couldn't make the trip due to illness and funding issues.

CAAPAS is a confederation of farmer-directed conservation associations with a mandate to promote sustainable farming practices to their members. Twelve countries are members of CAAPAS, including Canada which recently joined in 2004. At the 2005 meeting held in Uruguay, SCCC eagerly accepted a delegates' request that Canada host the 2006 event.

The congress kicked off July 18 with the CAAPAS delegates attending the Indian Head Agriculture Research Foundation (IHARF) zero till field day at the Indian Head experimental farm, east of Regina.

Delegates were amazed at the research being conducted by IHARF on zero till practices, particularly the new "Greenseeker" technology. A visit to the Jim Halford farm and ConservaPak factory also received high praise by the international guests.



*MP David Anderson, fifth from left, posed for photo with CAAPAS delegates following breakfast meeting*



*CAAPAS delegates check out the ConservaPak seeding system at the Halford Farm*

The congress continued in Regina at the Radisson Hotel Saskatchewan for the rest of the week. Agenda topics included country reports on the status of conservation activities in their areas; the adoption levels of no-till; upcoming events and general attitudes of farmers to conservation practices and strategies.

Another issue receiving attention was how to gain the attention of the major world associations such as the Food

and Agriculture Organization of the United Nations with respect to promoting the conservation of the soil resources.

The congress wrapped up July 21 with presentations from various Saskatchewan manufacturers and input suppliers. CAAPAS delegates were impressed with many facets of Canadian agriculture, particularly the development of Canadian no-till systems. They marveled at these developments under the trying economic situation that has gripped Canadian farmers.

The event was a tremendous success and one that will undoubtedly

lead to further cooperation between soil conservation associations across the Americas. The SCCC looks forward to continued collaboration with its southern friends at the next CAAPAS meeting, likely to be held in Brazil in 2007.

For more details on the CAAPAS congress see the full story and more photos on the SCCC website at: [www.soilcc.ca](http://www.soilcc.ca)  
For more information contact Doug McKell, SCCC executive director, at (306) 695-4212, [djbn.mckell@sasktel.net](mailto:djbn.mckell@sasktel.net)



*Technician collects greenhouse gas samples from soil in stubble field*



*Greenhouse gas samples are also being collected from ponds and sloughs bordering crop land.*

## National DU project to evaluate impact of farming on GHG

Ducks Unlimited Canada (DUC) is spearheading a new three year collaborative research project focused on measuring greenhouse gas (GHG) emissions and carbon storage on the Canadian agricultural landscape.

This project, funded jointly by DUC and Agriculture and Agri-Food Canada under the Advancing Canadian Agriculture and Agri-Food (ACAAF) Program, has a truly national focus with research sites in Alberta, Saskatchewan, Manitoba, Ontario and Nova Scotia. The project is unique in that it is the first time the Soil Conservation Council of Canada's Taking Charge Teams (TCTs) have been contracted to help conduct a research project<sup>1</sup>.

As a national multi-agency project, university researchers, government personnel and agricultural industry professionals from each province are involved. The collaborative research carried out by these agencies will assess the environmental role and economic value of wetlands and riparian zones in agricultural landscapes across Canada as they pertain to fluxes of GHG and carbon sequestration.

For the most part, until now, GHG and carbon sequestration research has been conducted in small experimental research plots. This study is focused on examining the entire landscape from the cultivated upland through the riparian zone to the wetland basin.

The goal of this landscape scale research is to help farmers identify the most effective beneficial management practices for reducing GHG fluxes and increasing carbon sequestration on their land. (For a more detailed description of

the project see the full article and more photos on the SCCC website at [www.soilcc.ca](http://www.soilcc.ca) )

Agricultural cropland is generally considered a carbon sink where crops use atmospheric carbon to grow, yet there is some evidence wetland soil may store up to twice as much carbon as the adjacent agricultural land. Wetlands are also a known source of methane while nitrous oxide emissions from the agricultural landscape depend on factors such as fertilization and tillage. As a result, all three of these GHGs will be monitored in this project.

GHG samples are being collected by TCT agrologists four times a year: spring, post-fertilization, late summer and post-harvest at six points along the upland-riparian-wetland transect. This enables the temporal flux of GHGs in and out of the landscape to be quantified in relation to major farming events.

Various tillage practices, riparian zone management and wetland restoration are the primary beneficial management practices being investigated to determine their effects on GHG fluxes and carbon sequestration.

This landscape scale assessment of beneficial management practices as they relate to carbon storage and GHG emissions may benefit producers and landowners in the future. By understanding the emissions from all specific areas on the landscape, producers can employ various best management practices that will minimize these emissions.

For more information contact Dr. Pascal Badiou, Research Scientist, Ducks Unlimited Canada p [badiou@ducks.ca](mailto:badiou@ducks.ca) (204) 467-3277.

## Nova Scotia programs makes direct seeding drill available to all producers

Nova Scotia producers, with a wide range of farm sizes, can now have economical access to new technology, such as a direct seeding drill, thanks to a program sponsored by the Soil and Crop Improvement Association of Nova Scotia (SCIANS).

SCIANS has developed a demonstration program which provides new technology - the TYE no-till seeder—to interested producers.

The seeder was purchased in 2003 in an effort to increase awareness on the benefits of no-till throughout the Maritime region and, since then, has been used by more than 40 producers. It is available on a first come first serve basis to any producer in the province at a low cost.

The SCIANS program recognizes while many farm operations are getting larger, not all producers have the scale of operation to justify buying new equipment.

Producers are continuously experiencing technological advances aimed at maximizing productivity while decreasing labor, time and expenditure. These advances provide opportunity for large scale operators, yet fail to provide direct assistance to those traditional producers.

The Nova Scotia agricultural industry is composed of 3,923 producers, 60 percent of which are smaller scale. New equipment often requires large investment; therefore many local producers are still using traditional methods as the primary practice throughout the region. The benefits of new technology are not often experienced by smaller producers until years after development; which translates into further segregation between large and small scale producers in regards to sustainable agriculture, production costs, time management, and environmental conservation.

### How We Can Help?

Under this program, SCIANS covers the initial purchase cost of the equipment and major maintenance, while the operators cover smaller maintenance cost. This type of collaboration offers many benefits to those producers who rent the equipment and the organizations who maintain it.

Producer benefits include:

- Cost effective access to new, innovative equipment
- Pre-purchase assessment of equipment
- Promotion of environmental stewardship
- Increased communication between producers and organizations
- Preservation of quality of life for rural community
- Increased economic viability
- Maintaining sustainable agriculture and the rural infrastructure

### Advantages of Equipment Demonstrations

Through the implementation of demonstrations like the use of direct seeding equipment, SCIANS is able to increase awareness of best management practices (BMP's) related to environmental and economic interests. Reduced tillage technologies help to decrease greenhouse gas emissions, prevent soil erosion, retain plant residues of organic matter, and enhance soil moisture; which are some of SCIANS objectives.

SCIANS, and demonstration projects like this, serve to ensure the competitiveness of the Nova Scotia agri-food industry for the betterment of the Nova Scotia farming community.

For further information contact Kurt van Vulpen at 902-893-2465 [vanvulkj@gov.ns.ca](mailto:vanvulkj@gov.ns.ca)



*The Tye no-till seed drill is available to Nova Scotia producers*

# Crop residue buncher provides winter grazing for Saskatchewan beef cattle

By Juanita Polegi  
Saskatchewan Soil Conservation Association



Developing and implementing inexpensive winter feeding methods for beef cows has sometimes proved a challenge for farmers. A new add-on feature for combines might assist producers in achieving that goal by utilizing crop residues as a winter feed source.

In 2005, a project was launched through the Greenhouse Gas Mitigation Program in which six cooperators from around the province tested an implement called the Whole Buncher. It's bolted on to the rear of the combine to catch residue and then dump small piles of straw and chaff across the field for cows to graze on over winter.

The Whole Buncher can be mounted onto conventional or rotary combines but seems to work best on the rotary models. It's like a giant pitchfork on the back of the combine with spring steel fingers collecting about 150 lbs of straw and chaff together and then dumping the material into a pile. The piles are relatively small but are easy for the cows to find in the snow.

In terms of the potential for tools such as the Whole Buncher, Lorne Klein, a forage development specialist with Saskatchewan Agriculture and Food says, "I believe this system could be the breakthrough with crop residue because when the combine leaves the field, there's no more machinery expense – no more diesel fuel and the piles are high enough the cows can find them, even through two feet of snow."

Klein also says according to a study conducted at the Western Beef Development Centre (WBDC) near Lanigan, "land that had some kind of winter grazing on it received a bonus \$2.25/cow/month worth of nitrogen" over hauling and spreading manure out of corrals.

Field tours were held with each cooperator in December 2005 to view the Whole Buncher and the crop residue piles. Klein was also in attendance, presenting information on winter grazing alternatives.

"Winter grazing enables the cows to do the work," says Klein, although he cautions that winter grazing requires a higher level of management and the system isn't about leaving the cows out on pasture for an extra month without grass.

The success of this cost-effective winter grazing systems depends largely on the stage of pregnancy of the cows. Cows in the second trimester are more suited to winter grazing than those in the third trimester or lactating from January through to March. Good health and body condition of second trimester cows can be maintained on a lower level of nutrition.

Klein suggests portable electric fencing be used to limit herd access to only a portion of the field and bunched residue at any time. Producers using the system move the wire every five to seven days. Depending on the nutrient content of the crop residue piles and the condition of the cows, supplement feed may also be required. Manure handling costs are eliminated as the cows distribute their own manure.

Lower feed costs, reduced labour requirements and higher nitrogen levels returned to the land in an environmentally friendly manner enhance the bottom line of the cow herd. A win-win situation all around.

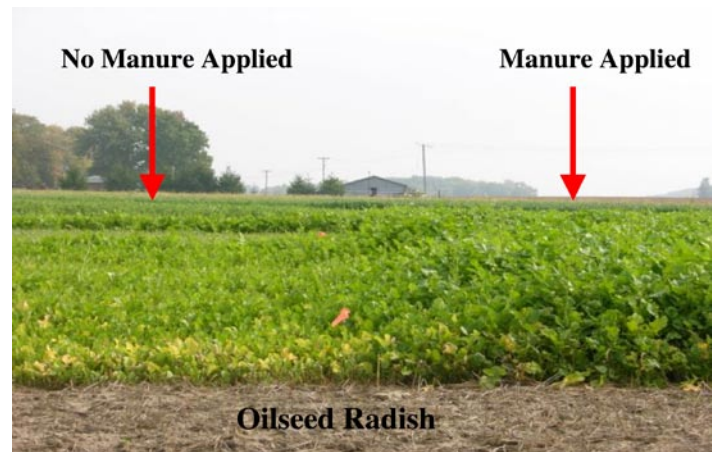
For more information on winter grazing alternatives, contact Lorne Klein at (306) 848-2382.

## Will cover crops work for Ontario producers?

Farmers harvest sunshine. After the wheat crop is harvested, there is at least two months of brilliant sunshine still to come. Yet often this sunshine falls on bare soil. There must be a way that farmers could harvest this sunshine, to improve their soil and bottom line!

Three years of trials (2003-2005) in southwestern Ontario have shown that cover crops after wheat can produce significant plant biomass. These plots showed various cover crops captured significant nitrogen in their plant material, and greatly reduced late fall soil nitrogen levels. All the soil health parameters should improve: increasing organic matter, water infiltration and water holding capacity, and reducing soil erosion potential.

Eighteen research/demonstration plots were established following winter wheat harvest (late August) over this



Significant growth can occur with late summer planted cover crops.

Continued on p.5

## Many New Brunswick producers pleased with no-till results

With increased interest in no-till farming practices, New Brunswick farmers were observing crop production and economic benefits this year by parking the plow and seeding directly into sod.

Preliminary assessment during field visits showed, under 2006 growing conditions, no-till corn appeared to be taller and have better color than conventionally-seeded corn. And no-till soybeans also appeared to have improved nitrogen-fixing nodulation and pod development over conventionally seeded crops. Also producers noted the reduced field operations also helped reduce fuel costs.

Further monitoring of no-till seeding systems is needed, but the Soil Conservation Council of Canada (SCCC) Taking Charge Team representatives in New Brunswick received an increased number of calls this spring from producers interested in trying no-till as a means to reduce input costs, benefit soil conservation and reduce labor requirements.

Several dairy and beef producers in southern New Brunswick traditionally follow a rotation that includes three to five years of hay crop followed by two to three years of silage or ear corn. Normally they would plow under the hay crop in preparation of corn production. As a result of Greenhouse Gas Mitigation Program demonstration sites over the last three summers some producers have decided to park the plow and try no-till on approximately one-third to 50 percent of their corn land.

Producers are finding the key to successful no-till farming includes an effective herbicide program for weed control, optimum planter settings for seed and fertilizer placement, and patience with Mother Nature. Spring conditions this season were wet at planting time which under conventional corn delayed plowing operations. Therefore, planting dates under no-till were within a day or two of conventional tillage.

Wet conditions continued during the growing season resulting in additional herbicide treatments to keep weeds in



**Left:** Good broad leaf weed control with only grass under a healthy corn crop

**Right:** Nodulation and pod development appeared to be more advanced in no-till beans than an adjacent conventionally-seeded soybean field.

check. With efficient field scouting and weed management, no-till corn was growing up while weeds were going down.

During field inspections of some of the no-till corn fields around the province it was noticed that a lot of conventional corn was pale green in colour. This may be due to the rainfall levels experienced during the growing season and loss of inorganic fertilizer. At the same time no-till corn in adjacent fields was green and healthy. Some of this may be due to the previous crop and increased levels of organic nutrients released throughout the growing season.

More no-till soybean acres also were planted in 2006 over 2005. Some producers who planted anywhere from 40 to 80 acres of beans under no-till and are pleased with the results so far. While yields won't be known until later in the fall, many producers who tried no-till beans say they hope to plant no-till corn next year into the bean residue.

**For more information contact Pat Toner, soil management specialists (506) 453-2109 or Susannah Banks, field coordinator (506) 454-1736 or email [nbscia@nbnet.nb.ca](mailto:nbscia@nbnet.nb.ca)**

### Cover Crops

*Continued from p.4*

three-year period. Cover crop species included: annual ryegrass, buckwheat, oats, oilseed radish, and peas. Red clover was evaluated at several of the sites. Manure (swine, liquid dairy, or solid cattle manure) and non-manure treatments were evaluated at each site.

In the absence of manure, oats performed better than annual ryegrass, buckwheat and oilseed radish, while peas and red clover out paced oats for biomass production. (For more details on the project see if the full story on the SCCC website at [www.soilcc.ca](http://www.soilcc.ca))

Cover crops, especially the non-legume ones were able to reduce soil nitrogen levels in the fall. The value of the cover crops was most evident where manure was applied. The soil nitrogen levels where no cover crop was planted showed significantly more fall soil nitrogen available than where any of the cover crops were established.

Cover crops are excellent at capturing nitrogen and building biomass. The final piece of this puzzle: does a cover crop increase yield, or reduce nitrogen requirements, in the following corn crop? The jury on these questions is still out. With harvest of the corn plots from our sites in 2006, we hope to have the answer, which we will report in a future issue of this publication!

This project was funded by the Greenhouse Gas Mitigation Program for Agriculture, administered by the Soil Conservation Council of Canada. The project was a cooperative effort between the University of Guelph and Ontario Ministry of Agriculture, Food and Rural Affairs crops staff, in conjunction with Ontario Soil and Crop Improvement Association and Innovative Farmers Association of Ontario.

**(Article reprinted courtesy of *Top Crop Manager*)**

**For more information contact Adam Hayes, OMAFRA, (519) 674-1621 [adam.hayes@omafra.gov.on.ca](mailto:adam.hayes@omafra.gov.on.ca)**

## Direct seeding demonstration continues to draw Alberta crowd

Alberta farmers are still interested in learning how direct seeding techniques can be used to improve overall cropping systems.

A direct seeding demonstration, held this spring north of the central Alberta community of Camrose, attracted more than 100 producers to see four air drills direct seeding into fall-sprayed sod and silage stubble. While the number of participants was down compared to the 600 or more producers who would have attended a similar event in the mid 1990s, these are perhaps an even more important group to reach.

Many of the farmers attending demonstrations now are late adopters, still seeking a few more answers before they make the inevitable move to direct seeding. There are also many farmers who are now looking at replacing their first air seeder with an air drill. Many are still traveling three or more hours just for the opportunity to see the equipment work for themselves.



The Camrose-area site also provided a comparison of tilled sod and direct seeding into sod. The cooperator made two passes with a double disc over an area of the field early in the spring prior to seeding. As part of the Canada's Producers Adapting to Climate Change (CAPACC) program, Rick Taillieu, agronomist with Alberta's Reduce Tillage LINKAGES (RTL) utilized greenhouse gas (GHG) testing equipment and protocols to measure GHG emissions. He collected samples of gas emissions on the tilled and undisturbed ground on a weekly basis from the time of cultivation up to seeding. Those GHG samples will be analyzed at the Greenhouse Gas Analysis Lab at the Nova Scotia Agricultural College.

The measuring equipment was available as part of a project under the national Advancing Canadian Agriculture and Agri-Food (ACAAF) program. The project, being coordinated by Ducks Unlimited Canada and the Soil Conservation Council of Canada (SCCC), is called "Management of Agricultural Landscapes with Wetlands and Riparian Zones: Economic and Greenhouse Gas Implications". Reduced Tillage LINKAGES is managing two sites in Alberta with the help of Alberta Agriculture.

In the new world of field demonstrations – it's farmer-owned and operated equipment that rules the day, rather than machinery manufacturers and dealers. In the case of the recent Camrose demo day, three of the four local farmers, who unselfishly took time out of their busy schedules, brought their own drills for the seeding demonstration. The fourth drill was owned by a dealership, but a local farmer owned the tractor and did the actual seeding.

Along with a great deal of planning, this successful field day depended on the support of many people and agencies including landowners like Larry Young of Camrose who was willing to seed later and risk mistakes being made, neighboring farmers who were willing to bring their drills out after they were done seeding, and the cooperation of the local municipal government. The County of Camrose provided manpower and expertise to help make the demo day possible.

**For more information contact Rick Taillieu, RTL Agronomist, Camrose at (780) 679 1787.**



*Above, and right, Alberta producers watch no-till drills in action and listen to farmers describe their direct seeding experience*

The direct seeding into sod aspect of the demonstration provided an opportunity to showcase the fastest growing area of direct seeding. Farmers and ranchers are adopting sod seeding as a way to increase productivity, reduce fuel consumption, minimize equipment usage and save valuable hours of farm labour. The technique also virtually eliminates the potential for soil erosion that has always been associated with removal of forages with intensive tillage practices.

## Pasture aeration technique may increase PEI forage production

A project launched by the PEI Soil and Crop Improvement Association this year, will help determine if aerating pastures is a viable option for increasing forage production, over the more expensive plowing and reseeded treatment.

The association will be monitoring a trial project where an AerWay pasture renovator was used to open a compacted, sod-bound pasture. The AerWay is designed to break up compaction in the top 8-10 inches of the soil profile allowing for increased water infiltration and less surface runoff.

If the treatment works, it will be an important option for producers in a province with about 29,000 acres of seeded pasture and 31,000 acres of natural pasture. A significant portion of this pasture land has room for increased production.

Since much of the pasture land is on the wetter areas of farms, there are additional challenges to increased production. Soil compaction from animal traffic is one limiting factor as well as the fact that many of the desirable pasture species, especially legumes, have a limited life and must be reseeded to maintain the population.



*AerWay Pasture Renovator*



*Tillage from 10 degree roller angle.*

There are many different ways to renovate pasture with the most popular on PEI being to plow the pasture and plant a grain crop under-seeded with a pasture mix. This is an expensive and time consuming option in that the land is taken out of pasture production for at least one full year.

Having better soil aeration will also reduce waterlogging of the soil and result in fewer nitrous oxide emissions. The goal of this project is to determine if this tool is an effective means of rejuvenating a tired pasture.

The AerWay demonstration has been set up with two treatments and a check plot. In treatment one the AerWay was set at a five degree roller angle and in treatment two it was set at a 10 degree roller angle for increased tillage and shattering. Seed was applied at the same time as tillage. The plots were then rolled to ensure good soil to seed contact.

This demonstration will be monitored to see if there is improved growth in the treated plots.

**For more information contact, Will MacNeill, Field Coordinator**  
Phone:(902)859-3126 or email: [will@atlanticprecision.ca](mailto:will@atlanticprecision.ca)

## Committee finalizes CAPAEI projects for Quebec

The Canada's Agricultural Producers Addressing Environmental Issues (CAPAEI) management committee has announced the implementation of the new program for 2006-2007. Here is an overview of the upcoming season's highlights.

Following the example of previous years, demonstration networks in soil conservation and nitrogen fertilization will be maintained. A network was established by the Abitibi-Est Agricultural Advisory Group to carry out nitrogen fertilization in field crops such as barley, oats, and canola, as well as on grassland.

The goal of these demonstration trials is to develop simple diagnostic tools that will enable field agronomists to recommend an appropriate fertilizer application rate when using paper mill sludge and mineral nitrogen.

Paper mill sludge represents 25 percent of all organic inputs used in the area, thus becoming a major issue. In addition, a demonstration on the impact of ammonia volatilization in direct seeding will be carried out by Agriculture and Agri-Food Canada. Measures of ammonia losses will be evaluated through controlled precipitations and used to compare the effect of nitrogen incorporation using two distinct nitrogen sources - hog manure and urea.

Once more this year, plots monitored through the GR-Max protocol will provide new producers with information on crop performance under soil conservation practices for areas outside traditional crop production areas. The aim of this initiative is to compensate for the lack of information available

in these areas, where grain corn is not the dominant crop. Seventy-eight sites have been listed to date within this network for the 2006 crop season.

Moreover, events dealing with renewable energy are part of the CAPAEI program. In particular, the operation of a six-row corn picker recently imported from France will be part of a crib corn drying demonstration at the «Expo-Champs» summer show in St-Liboire. On site, producers will be able to see the harvester as well as two detachable metal crib models. In 2005, about 7,000 participants visited this exhibition.

On a similar note, a seminar will be held this winter on the anaerobic digestion of manure. This will provide an opportunity for agricultural producers to become familiar with this technology's potential, the interest of which is growing on the regional and international level.

A forum on farm energy use and production will also be set up in the spring of 2007. The content shared during this event will essentially come from an investigation on farm energy issues currently underway and completed on behalf of the "Union des producteurs agricoles" (UPA), to which the "Conseil pour le développement de l'agriculture du Québec" (CDAQ) is contributing. The CAPAEI management committee wants to take the opportunity to convey its message as regards greenhouse gas reduction and will be on location with its own booth.

**For more information contact Carl Bérubé, field coordinator at (450) 245-1075 or by email at [cberube@citenet.net](mailto:cberube@citenet.net)**

## Tree shelters help capture BC poultry barn ammonia emissions

BC Lower Mainland poultry producers are learning how tree shelterbelts can be an effective tool in helping control odor emissions from poultry barns.

The Abbotsford Soil Conservation Association (ASCA) in a joint effort with the BC Sustainable Poultry Farming Group (SPFG) hosted a recent seminar highlighting practical methods to reduce air emissions from poultry barns and effective monitoring techniques from which to evaluate potential solutions.

Producers attending the seminar learned tree shelterbelts can be used for odour reduction, visual screen, windbreak, shade, help to minimize snow drifting and reduce airborne transmission of particulates and ammonia associated with poultry production.

Kevin Chipperfield of SPFG discussed the results of tree shelterbelt trials in the Fraser Valley, while Bud Malone, of the University of Delaware, gave the audience an overview of the years of experience with poultry barn shelterbelts in the Delaware area.

Participants also heard from Dr. Shabtai Bittman, Agriculture and Agri-Food Canada (AAFC), on the background for current interest in ammonia emission in the Fraser Valley and elsewhere in Canada and North America. Dr. Moussa Diarra, also with AAFC, discussed his bioaerosol studies.

As regional concentrations of poultry farms increase in southern BC ammonia, particulate and odour emissions are becoming a serious issue. Ammonia losses from poultry operations have been identified as a significant source of ammonia in the Fraser Valley.



*Ralph Volkmann, Sustainable Poultry Farming Group, giving opening comments and introduction at the seminar.*

An estimated 60 to 70 percent of the ammonia lost to the atmosphere is returned to the soil through rainfall and dry deposition and a large portion is deposited relatively close to the source. Atmospheric deposition of ammonium, from  $\text{NH}_3$ , fertilizes soils and can enhance biogenic  $\text{N}_2\text{O}$  formation.

Adoption of cost-effective techniques to reduce air emissions by poultry production is becoming increasingly necessary.

**For more information on any of these subjects please contact ASCA coordinator, Jayna Houston at [Jayna@AbbotsfordSoilConservation.com](mailto:Jayna@AbbotsfordSoilConservation.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  
<http://www.agrireseau.qc.ca/agroenvironnement/navigation.asp?operateur=sitevoc&sitevoc=14708>

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.scca.ca>

Alberta Reduced Tillage Linkages  
<http://www.reducedtillage.ca>

Focus issue of Agri-News  
[http://www1.agric.gov.ab.ca/\\$department/newslett.nsf/homemain/agnw?opendocument](http://www1.agric.gov.ab.ca/$department/newslett.nsf/homemain/agnw?opendocument)

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>

### SCCC initiatives are supported by these organizations



Soil Conservation Council of Canada



Canadian Cattlemen's Association



Les Producteurs laitiers du Canada



Agriculture et Agroalimentaire Canada

Agriculture and Agri-Food Canada