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Breaking Ground

(in Northeastern Ontario)

SPRING 09

A Publication of the North Eastern Ontario Soil & Crop Improvement Association (NEOSCIA)

A New Cash Crop for Farmers?

There is no question that 2008 was a watershed year for everyone. From the standpoint of skyrocketing fuel prices to the crash of the stockmarket, from political upheaval (on both sides of the border) to significant unemployment



among the masses, could there be any good to come of it all? Apparently "YES", if you are a farmer. The by-products that we have always considered to be "waste" will soon have a monetary value, at least here in Ontario. Here are some ideas collected at the "Emerging Opportunities with Wood Pellets Forum" held in North Bay on March '05.

It all stems from the development of the "Green Energy Act" initiated by the Ontario government. Currently before the legislature, the Act will establish conservation and renewable energy as a top priority for the government when procuring new supplies of energy for the Province. It will also enable Communities, First Nations, and Farmers (among others) to become energy producers. The government will legislate fair prices over the long term for renewable energy and GUARANTEE that it can be sold via the provincial energy network.

Case in point. Ontario Power Generation (OPG) has been ordered to close all of their coal fired plants by 2014 at the latest. They have the option to switch from coal to BIOMASS as a fuel source. At

their Atikokan plant, OPG has experimented with the burning of wood "Pellets" as an alternative fuel. Worked like a charm! Result? OPG is now seeking suppliers of wood pellets, as well as any other type of Biomass that can be pelletized and burnt. Atikokan will be the first biofuel energy producer, slated for operation in 2012. By 2014, OPG will require 20% of the current world supply of pellets.

So what does that do for the farmer? First, if you own a bushlot, the leftover woody waste from a cutting operation can be collected and sent to a pelletizer (many of which will be built in the next few years). Your excess hay bales can be pelletized. A field of straw can be harvested and sold as profit. A weedy field can be fertilized and managed for maximum CARBON production, rather than for feed quality. Provided that it is not a food crop, OPG will accept any biomass as a fuel pellet. Even the chaff and weed seeds.

The key is pelletizing and combustion in a

Continued on page 2

NOTE: **Sponsors/Advertisers needed for coming year. \$500 for 4 issues!**

This newsletter is published 4 times per year. Articles can be submitted in either English or French and should be submitted to the Communication Coordinator (see below). Please supply translation, if available.

Material in this newsletter is based upon factual information believed to be accurate. Action taken as a result of this information is solely the responsibility of the user. We reserve the right to edit articles.

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Northeastern Ontario Soil and Crop Caravan 2009

FARM NUTRIENT SOLUTIONS!

Watch for the invitation from your local association.

Small on-farm sessions to highlight ideas and provide insightful solutions

Meeting locations in every district across the north east.

Program:

1. On farm "Nutrient Management Walk" with Q & A session to highlight ideas for managing nutrients in an actual farm situation to benefit the environment and for profit. All and any questions are welcome! A discussion on summer and winter feeding and pasture management for beef cattle may also be included. Very much a 'how to' session geared to the local community. The walk may start at the farm yard and end in the fields. Something for everyone. Speaker: Keith Reid, Soil Fertility Specialist with OMAFRA.
2. If the next generation cost share program for environmental farm plan identified improvements is announced, the following will be included: "Money for Management... Nutrient Management that is." Find out how much and for what... 2009 EFP cost share explained. Speaker: EFP representative for the district.

Where

Tentative Date and Time

Muskoka	June 8, 1 p.m.
Parry Sound/ East Nipissing	June 8, 7 p.m.
West Nipissing/East Sudbury	June 9, 1 p.m.
Sudbury	June 9, 7 p.m.
Manitoulin	June 10, 10 a.m.
Algoma	June 10, 7 p.m.
Cochrane	June 11, 7 p.m.
Temiskaming	June 12, 10:30 a.m.

A New Cash Crop for Farmers?

Continued from page 1

modern burner, no matter if it is a home pellet stove or an OPG facility. The biomass is ground fine, and reformed as a pellet that looks similar to some chicken or rabbit feeds. As a pellet, both softwood and hardwood contain a similar energy content of about 8000BTU per pound. Agricultural biomass such as straw has a 25% lower energy content, but energy is source dependent.

A note of caution, however. Some Agricultural biomass sources (such as straw) are known to have a higher ash content than wood, and also have negative mineral content (such as silica) associated with them. Farm bioproducts can also be highly corrosive on the burners, compared to wood. There is much that is not known locally, but remember that this technology has been used for over 2 decades in Europe, especially Scandinavia. The info is out there!

To this end, NEOSCIA has approached "Fed Nor" to seek financing to hire a university graduate "Intern" for a one year position, starting this spring. The individual will determine the potential for farm biomass production for ENERGY in every farm community in the 8 Districts that make up the NEOSCIA region. Do you know a suitable candidate for this job? The individual must be under 30, graduating within the past 3 years from an appropriate university course. The position will be located in New Liskeard. Have the individual contact NEOSCIA President, Janet Parsons (705) 753-0730, immediately.

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Northern Ontario Regional
Office (NORO)

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Please note that the target publication date of this bulletin is the first Friday of each month. Submissions for the bulletin and requests to subscribe/unsubscribe may be forwarded to: shanna.james@ontario.ca.

Staff Update: I am pleased to announce that Pierrette Desrochers will be returning to her duties as Agricultural Representative effective March 16, 2009. We look forward to having Pierrette back on our OMAFRA team.

Upcoming Local Events:

1. Growing Your Farm Profits – Planning for Business Success March 16 and 17

Algoma District Services Administration Board – Meeting Room, 1 Collver Road, Thessalon

This workshop will give you the tools needed to assess your current farm management practices and understand how proactive planning can influence effective decision making. Topics include marketing, production, financial management, human resources, social responsibility, succession planning, business structure and business strategy.

For information and to register, contact Ontario Soil and Crop Improvement Association at 1-800-265-9751 or at www.ontariosoilcrop.org

2. Sheep / Goat Workshop March 19, 7:00 p.m. – 9:30 p.m.

Caldwell Township Building
Meeting Room, Verner

Presentations include Neo Natal Lamb and Kid Care - Dr. Amy Gah, Springer Animal Hospital and Forage Quality and Feeding Lambs and Kids - Barry Potter, Livestock Specialist – North Region, OMAFRA

For information and to pre-register, contact the NORO at 1-800-461-6132.

3. Economies in Transition: Leveraging Cultural Assets for Prosperity March 26, (8:30 a.m. – 4 p.m.)

The Rosseau, a JW Marriott Resort & Spa, 1050 Paignton House Road, Minnett (District of Muskoka)

Cost: Adults - \$65; Students - \$25 (includes lunch)

The Ontario Rural Council (TORC) in partnership with the Municipal Cultural Planning Partnership is holding a workshop focusing on the importance of municipal cultural planning in driving economic growth and community development in rural and small town Ontario. Laurence Mawhinney, Mayor of Lunenburg, Nova Scotia will be speaking on cultural identity, heritage, sustainability and what makes his incredibly vibrant town tick.

Regional success stories and tools to help communities get started and succeed will be provided.

For information and to register, contact TORC at www.torc.on.ca or call 519-826-4128

4. Nipissing Soil & Crop Information Day and Seed Fair

April 1, Registration: 10:00 a.m.

Meeting: 10:30 a.m. – 4 p.m.

Verner Arena

For information contact Normand Delorme at 705-594-2324

5. Nipissing Soil & Crop Hay Day April 2, 1:00 p.m. – 4:00 p.m.

Caldwell Township Hall Meeting Room, Verner
Presentation – “Making Quality Hay” with Marc Côté, Agland (Manitoba)

For information contact Normand Delorme at 705-594-2324

6. Northeastern Ontario Farm Show

April 3, 10:00 a.m. - 9:00 p.m.

April 4, 7:00 a.m. – 4:00 p.m.

Earlton Recreation Arena

Workshops on April 4th include:

Ira Mandell

- Steers on Pasture vs. Conventional Diets;

Mike Cowbrough

- Solutions for Weeds in the North;

John Rowsell

- Straw, How Much is There?

Becky Hughes

- Fresh Ontario Strawberries, 6-Months a Year;

Mitch Deschatelets and Dave Lewington

- Horticultural Crops for the Local Market

For further information contact Graham Gambles at 705-672-3105 or by email at gamblesgraham@yahoo.ca

7. Northern Powerpac All Breeds Bull Sale April 11, 2:00 p.m.

Temiskaming Livestock Exchange, New Liskeard

For information contact Barry Potter at 705-563-2752

8. Advantage – Good Agricultural Practices Workshop

April 18, 10 a.m. – 3:30 p.m.

Spring Bay Hall, 9298 Hwy 542, Spring Bay

Food safety is everyone's responsibility. That's why Ontario has introduced, Advantage – Good

Agricultural Practices, a workshop and manual to assist you in introducing and enhancing food safety practices on the farm. Advantage offers a whole farm approach covering all aspects of crop and livestock production. The practices can be applied to any farm, regardless of size, farming methods or products produced. For multi-commodity farms, the Advantage manual allows farmers to use one resource and keep one set of records.

This workshop will provide you with information and best management practices on irrigation water, post-harvest water, manures and composts, hygiene and an introduction to traceability. Participants will receive a complimentary copy of the Advantage – Good Agricultural Practices manual.

Pre-registration through NORO (1-800-461-6132) is required by April 8, 2009

9. Sudbury and District Beekeepers' Association Technical Workshop June 20, 2009

For information contact Dick Cowan at 705-522-6002

Upcoming Provincial Events:

1. Ottawa Valley Farm Show March 17 and 19, 2009

-Lansdowne Park, Ottawa

For information, visit: <http://www.ottawafarmshow.com>

2. Canadian Organic Growers Course – “Transition to Certified Organic Farming” March 20 and 21, 2009

– **NEW LOCATION** – Kemptville College

A hands-on course for experienced farmers interested in transitioning their farms to certified organic production.

Cost (includes proceedings and lunch):

\$200 non-members;

\$160 Canadian Organic Growers and Ecological Farmers Association of Ontario (EFAO) members

For information and/or to register, contact Karen Maitland, EFAO at 1-877-822-8606 or email: info@efao.ca or visit: www.efao.ca

3. Can-Am All Breed Equine Show March 20 to 22

Western Fair, London

For information visit, <http://canamequine.ca/>

4. Farm Safety Association's Annual Conference and Annual General Meeting March 30 and 31

Hilton Fallsview, Niagara Falls

For information, visit <http://www.farmsafety.ca;>

5. Food Meets Function – The Science and Business of Functional Foods Conference June 17 and 18

Best Western Lamplighter Inn and Conference Center, London

For information, visit www.foodmeetsfunction.ca

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Algoma Soil & Crop Improvement Association 2008 ANNUAL MEETING

by Sharon Lane, Regional Correspondent to "Breaking Ground"

Algoma Soil and Crop Improvement Association (ASCIA) held its annual meeting January 21 from 10 a.m. to 3 p.m. at the Bruce Station Hall with about 70 members and guests attending. Harold Stewart, chair, opened the meeting reminiscing about the changes to the Soil & Crop Improvement Associations over the 70 years since its inception.

Murray Cochrane, incoming president for OSCIA, reported that all partner grants were completed, that the provincial director realignment will lead to better communications, that the booklet, *Crop Advances*, has a summary of all on-farm trials done by OMAFRA, and that the new self-assessment workshops, "Growing Your Farm Profits – Planning for Business Success" will be available in each area soon.

Dave Trivers, Agriculture rep., mentioned that Weed Control Trials on smooth bedstraw and other weeds (tansy) will be done and that field plots are needed for Forage Trials using camelina (false flax) and penny-cress (for biodiesel fuel). He presented the Algoma Corn Silage Plots data.

The plots at Scattered Acres had more fertilizer and yielded more tonnage.

Jonathon Stewart announced that Environmental Farm Plan (EFP) workshops would be held in the spring. "Growing Your Farm Profits" (GYFP) sees farming as a business; therefore, "planning is the key to success". A free two-day workshop is planned for March 16 & 17 in Little Rapids at the Algoma District Social Service build. This self-assessment workshop will clarify goals and identify strengths and needs.

Les Hillstrom (Vet Committee) mentioned that farmers might have difficulty in acquiring the services of a large animal vet in the near future. He urged members to approach the government to continue to subsidize OMAFRA for this service.

Tracey Cooke, MNR Stewardship Coordinator, explained the Stewardship Program. Her role is to facilitate the council members in their goals. For example, she might find out what grants would be available to them for their project.

Mark Van Veen, Salford Farm

Machinery, discussed tilling the soil & how it affects crop yield. His company has developed cultivators & RTP (Residue Tillage Specialist) that have had good results for corn yields.

Colin Trivers presented Dean Allen with the Award of Merit for 2008. Dean, a long-time member of ASCIA, had a milk quota from 1947 till 1979 and then beef cattle until 1990. He was one of the first area farmers to increase his milk yield by growing corn for his herd.

Joel Bagg, Forage Specialist from OMAFRA, discussed the cost and use of fertilizer and hay production. Fertility of the soil is important; otherwise, the farmer is mining the soil. Phosphorus potash and potassium should be replaced. He feels that Algoma should have access to the horse hay market, which wants a mixture of dry, green alfalfa and timothy in square bales with no dust.

Officers for the upcoming year were elected as needed, and the meeting was adjourned.

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Breaking Ground (in Northeastern Ontario)

Crop Input Costs Expected To Impact 2009 Grain Markets

By Stephen Kell, Parrish & Heimbecker

The key feature in the grain market for 2009 is the impact of higher crop input prices on farmer's planting intentions. Although input costs are always an important part of the grower's decisions on which crops to plant record crop nutrients costs for the spring of 2009 are amplifying the impact of inputs on this decision.

On a continental scale, we expect to see record soybean plantings in 2009 with most of the increase in soybean acres coming at the expense of corn plantings. This swing aggregated over the whole North American continent could be as large as 5 million to 7 million acres. With a corn acre consuming as much as 500 lbs of crop nutrient products and soybeans often going in without any fertilizer at all, the swing across the middle part of the continent is very easy to understand, but what does this mean to grain growers in Temiskaming?

Certainly farmers in the north are not going to be protected from the higher input costs. Corn likely never was an option, but a substantial decline in corn acres would translate to increased demand for feed grains world wide. Considering that the average corn yield is close to 4 tonnes per acre, it takes substantially more acres of cereal feed grains to replace the production losses from a decrease in corn acres. (If the economy were to replace 1 million acres of corn with 1 million acres of barley, we would still come up 2 million tonnes short of feed grain).

There is also a general consensus that 2009 crop yields will be lower than 2008. This is partially due to the exceptional growing conditions in 2008, but will also be the result of farmers limiting their use of crop nutrient products in 2009. While most growers have maintained their soil nutrient bank in good enough condition that they can withstand a decrease in fertilizer usage over the short term, expect 2009 yields to fall below the trendlines.

We may not see a rapid turn about in grain values as a result of lowered production in 2009, but it will tighten world stocks and perhaps shift the trend of grain pricing back to the high side. Due to the lack of sufficient money in the world economy to initiate a sustained rally, don't look for the turn around to come quickly it may take 6 to 8 months to develop.

With an expected increase in soybean production in the coming year, the oilseed complex is expected to be sluggish over the coming crop year. While this doesn't directly correlate to canola, the vegetable oil complex and the protein meal complex will be bogged down by the sheer size of the soybean crop. If canola is a part of your cropping program, forward contracting a portion of your production is a good way to avoid marketing in the harvest time glut that appears to lie ahead. Growers of soybeans need to make a very considered effort to take part in this strategy. (Think of this tactic as hiding in the cellar while the tornado blows through).



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“Make it Happen – success in reaching retail”

by Sharon Lane, Regional Correspondent to “Breaking Ground”



Will Samis reported on how the Penokean Hills Farms Beef Producers got organized and how it works.

The panel for this part of the conference consisted of Raymond Savage, the manager of Co-operative Regionale de Nipissing Sudbury; Dan Poulin, owner of Dan Poulin Potatoes Inc.; Troy Isaac, Last Mountain Berry Farms; and Will Samis, Penokean Hills Farms Beef Producers.

Raymond Savage gave his presentation on “Make it Happen” from the retailers perspective. His retail store sells local products: maple syrup, seeds, grains, beef, and preserves. Before he accepts a local supplier, he must consider the risks, which include liabilities, shelf life, type of supply (seasonal or long term), who will deliver product and how, special requirements to stock product (i.e. refrigeration), process involved in preparing and bringing product to market, other points of sale, restrictions on franchise, provincial/federal inspections and labelling requirements. The next consideration is what are the costs associated with selling this product. What does the producer expect to make on his product? Labour usually cost 10% to 15% of the value of the product, and grocery stores have only 20% profit. The third factor that he considers is what are the rewards for the retailer – money, exclusivity and traffic to the store and for the supplier – someone else sells the product. It should be a win/win situation for both the seller and the supplier.

Dan Poulin gave his view from that of a producer. His problem has been with stores that have become incorporated. They no longer will buy locally. His challenge is to educate the store managers/ owner that

people want local produce. Often his customers become vocal and ask for his potatoes. He suggested that the potato bags can be used for message such as “Thank you for buying locally” or “You are helping to save the environment”.

Troy Isaac has had five years experience in marketing and selling homemade jams and preserves in Saskatchewan. Demonstrations and exposure in large companies like Costco will help get the product

recognized. He mentioned that customers have to see a product five times before they will buy it. He found that if the producer generates a demand for a product the store would stock it. He has been trying to start Saskatoon berries commercially in Algoma since growing conditions are better than in the west.

Will Samis reported on how the Penokean Hills Farms Beef Producers got organized and how it works. A brand must have three recognizable attributes, and they feel that they have five. A mixture of beef cuts is boxed and sold. Each box is given a number so the meat is traceable and only one animal per box. The cattle are finished on a ration of peas and barley that is grown locally. None of the cattle receive antibiotics or growth hormones. In discussing that it is necessary to build alliances, Will mentioned that they invited the butchers from the local retailers to the Cattlemen’s Association meetings. His closing words were to learn all you can about your product, aim for the highest quality and don’t relax your standards.

Dorene Collins from Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) addressed ‘The What, The Who and The Why – Understanding Food and Value-Added Regulations. The Ministry will provide workshops for producers so that they can understand them. Building relationships and using the resources will help people navigate through them. The rules and regulations are established for the public good.

Rose Diebolt explained how she, as owner

of Garden’s Gate Restaurant on Manitoulin Island, is “Filling the Order – from the farm to the plate”. She buys as much local organic produce as she can and grows all her own herbs. She tries to serve one vegetable that is different (beet greens) to get people tasting different vegetables and to educate people. She sends out a paper newsletter with a recipe, as she is not adept with technology.

Nancy Guppy of Chapman’s Landing Cooking School tries to use as much locally grown produces as she can. She advocates the “100-mile “ or for Canadians, the “160 km” diet. She uses a website to advertise her classes as well as putting information on that educated people on the value of healthy eating

The final panel of the conference was on “Rebuilding the Middle – Innovative Distribution Models”. Diana Bockus from a Thunder Bay area Food Buyers’ Group explains how the group is organized. Instead of shopping at a store they submit their grocery list and the food comes to them. She has 50 steps to set up a food buyers group. To her the advantages are they support the local economy, they know when it is best to buy certain items, and they don’t spend time and money going shopping.

Mark Trealout with Kawartha Ecological Growers is supporting small-scale sustainable agriculture in the Kawartha Lakes area, increasing access to “good, clean, fair food, and paying the farmers 75% of the money he charges for their produce. He gathers produce from other farmers and delivers it to Community Shared Agriculture (CSA), to restaurants and goes to Farmers’ markets. He feels that the best way to go is CSA.

The final panellist was Dave Lewington of Dalew Farms. He entitled his presentation “Piracy in the Food System: Taking Back the Middle Ground”. Since he thinks that the word ‘organic’ doesn’t mean anything anymore, he prefers to say that he is an “authentic food producer”. He “pastures” his hens, pigs, cows and lambs and uses no pesticides or chemicals in his market garden. He sells at a Farmers’ Market, at his farm gate and has 60 members in Community Shared Agriculture.



OSCIA News...

March 2009

A NEWSLETTER TO UPDATE OSCIA MEMBERS,
PRESIDENTS, SECRETARIES, TREASURERS, DIRECTORS,
AND OMAFRA AGRICULTURE DEVELOPMENT CONTACTS —

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OSCIA 2010 ANNUAL MEETING

Date: February 2 & 3, 2010
Place: Sheraton Fallsview
Niagara Falls

Message from the President

As parts of Ontario saw the snow recede in the last couple of weeks, combines could be seen pulling out of implement sheds and continuing in what was considered (depending on where you live) a successful 2008 crop year.

For those of you who do not know me, my wife Norma and I operate a beef cow-calf through to finish and cash crop farm in the district of Algoma. In the summer of 2008 we had the opportunity to host the provincial Directors summer meeting. We were able to showcase an area of Ontario not often travelled.



Murray Cochrane

OSCIA's Annual Meeting in Niagara Falls, held February 3 & 4, was well attended. There were excellent presentations on last year's Major and Partner Grant projects. The level of professionalism is a credit to the enthusiasm of the local and regional associations and the cooperation of OMAFRA's Agriculture Development staff.

The meeting started off with the always-popular crop report from the previous year and new and emerging trends for the upcoming year. This year, Ian McDonald and Keith Reid from Agriculture Development Branch of OMAFRA supplied us with entertaining and informative details. The theme of this year's meeting was "Farming on the New Plateau". Guest Speakers spoke on the opportunities of biomass for fuel, farmers working together for value added and researchers working with farmers.

We also congratulate Justin Dorland, Northumberland County, as the winner of the 2008 Provincial Forage Masters competition. We wish him well as he advances to the American Forage and Grassland Conference in Michigan.

I would like to concur with Dr. Rob Gordon, Dean of OAC, on his desire to get more research from OAC to the farm. This will only enhance the strategic partnership between OAC and U of G research, Agriculture and Agri-

Breaking Ground (in Northeastern Ontario)

Food Canada, OMAFRA, and members of OSCIA. Research and demonstration projects benefit not only OSCIA members, but the farming community in general through communication, that being in the form of our regional newsletters, Crop Advances and agriculture's newspapers. To stay competitive in today's global market, money has to be spent on research, development and implementation. OSCIA is poised to assist in outreach.

We are anticipating a busy year within OSCIA with the signing of the new three-year OSCIA/OMAFRA agreement; we are now entering a new round of regional research Partner and Communication Grants as well as Major, Project and Education Grants.

The greatest tool our organization has is our ability to communicate. The transfer of information through our regional newsletters and Crop Advances, regional/county information sessions and conferences like FarmSmart and SWAC are fundamental.

We are looking forward to the anticipated Growing Forward set of provincial/federal programs, that being the continuation of EFP and the new Growing Your Farm Profits (GYFP) program. Planning for success has many components, but most important is knowing where you are now, where you want to go, and the path you have to take to get there.

I am looking forward to working closely with our new slate of Directors, OSCIA staff, AAFC, OMAFRA and of course, members of OSCIA.

As we look forward to spring, I would like to wish everyone a safe and profitable growing season for 2009. ♦

Membership Renewal Strategies

Following are the results of the survey sent to local associations to collect ideas on how they renew and expand their membership. Hopefully some of these ideas will assist local associations across the province as they hold membership drives.

- Collect memberships at annual meetings, tours, and events.
- Send invoices to members
- Directors and secretaries phone members to renew
- Mail membership renewal to members (could be included with annual meeting notices)
- Include renewal form with the newsletter
- Sign new members in order to participate in the Ontario Forage Masters Program
- Hold an event (e.g. bus tour) where participants pay an entry fee that includes a membership fee
- Sell memberships at agricultural conferences throughout the province

- Directors invite neighbours to join and sell them memberships
- Agri-business have membership book (green booklet) available on counter for anyone interested to join
- Send an invitation-to-join letter to prospective new members
- Hold door prizes at events where those with current memberships are eligible
- Offer a free meal at the annual meeting with a new membership
- Must be a member to participate in the Seed Show and Fair
- Entry fee for conferences includes membership fee
- Offer multiple-year memberships. ♦

Promote Your Local SCIA

OSCIA has four stand-up displays that highlight the grassroot involvement, membership, and activities of local Soil and Crop Improvement Associations.

These displays work well as a group, and can also be very effective when displayed individually.

This item can be provided to local and regional SCIA's by contacting the provincial office. ♦

Visit the OSCIA website
www.ontariosoilcrop.org

2009 Ontario Forage Masters Program

Plans for the 2009 Ontario Forage Masters Program are well under way, with guidelines distributed to local associations recently.

The sponsors - Pickseed Canada, Agri-Food Laboratories - are again offering valuable prizes to the top winners from each local association.

For a listing of prizes, a copy of the guidelines, and how to enter, you are encouraged to contact your local Soil and Crop Improvement Association.

The guidelines are also posted on the OSCIA website.

The deadline for local associations to submit entries to the provincial office is April 17, so don't delay. Contact your local association secretary today. ♦



OSCIA Annual Meeting

A number of excellent speakers were featured at the 2009 Annual Meeting, whose presentations will be summarized in each issue of OSCIA News in 2009 by members of the OSCIA Regional Communication Coordinator team. Following is the first article.

“ANTARCTIC MISSION”

- Jacquie Bishop, RCC, Heartland Region

Jean Lemire, marine biologist and film maker, shared his Antarctica Mission through a dramatic recounting. The guests, Directors and delegates gained an insight into what the expedition was truly like. By sharing excerpts of his film, many pictures and his commentary, a snapshot developed of what the crew of the Sedna experienced for 430 days.

Lemire's dry sense of humour along with his French accent kept the audience captive with his staged account of the mission. The expedition was to study climate change and how it is affecting marine life at the South Pole. Lemire and twelve other crew travelled to the last unspoiled continent on the planet where there were millions of birds, whales and seals. Through the 430 days, the crew's adventures were shared with others who also became excited about the mission; by the end of their adventure, there were 900,000 people following the expedition via their website. This excitement has translated to others wishing to hear of their experiences.



Max Kaiser (left), 2nd Vice President of OSCIA, thanks Jean Lemire for sharing his experiences with delegates and guests.

Throughout this extreme adventure, the crew members felt at times like they were living in Shangri-La. Along route to the South Pole, they visited Argentina which made them feel like they were living a dream as the dolphins were frolicking alongside the boat. The Falkland Islands had beautiful sandy beaches with thousands of animals swimming in the water. The King penguins were appreciated for their uniqueness as stately beings. All crew members enjoyed being a part of nature and being one with the animals.

There were many challenges that had to be overcome during the expedition. The crew's sense of humour and positive attitude had to be paramount as many decisions needed to be made to have a successful mission. During the expedition, ice did not form in April, May, June or July as it had in the past, which made it very difficult for the crew members to do their research. More importantly, the challenge of being locked on the boat day in and day out with only four hours of daylight certainly played on the crew. Mr. Lemire joked that the psychologist was the most important person on the boat as one can imagine spending this long on a 51-foot vessel in the middle of winter with no opportunity to get off the boat. The members of the crew were able to shower once every ten days and wash their clothes once a month. Humour was paramount when dealing with these conditions.

In May, the crew experienced terrific windstorms and had to relocate their vessel. Exciting and scary times kept the adrenaline pumping. Finally, when the ice arrived in August, they were able to escape from the boat to work on some of their research. With spring coming earlier, fall being longer, there is a shorter time for winter conditions which leaves a shorter time for the ice to form. The sea level is rising due to the glaciers melting as the oceans become warmer and warmer. The average temperature has increased 2.5 degrees in the last 50 years. The quantity of water melting from ice melts have doubled in the last 13 years. This results in many rippling problems that we as humans are causing.

At the end of the expedition, the crew was completely recharged and had reconnected with nature. A piece of each of them seemed to stay in Antarctica; the peace they found there refused to die. Jean Lemire felt that this part of the world was simply beautiful and should be publicized for its serene character.

Jean Lemire's take home message to the guests of OSCIA and its members was simple. While he believes that the problem of climate change is global, the solutions must be local. Through concrete actions in our communities and on our farms, he felt that each of us has a part to play in the successful answer to the great challenge of global warming. ♦

Breaking Ground (in Northeastern Ontario)

Nutrient Management Outreach Grant

OMAFRA has allocated funding to support new communication activities of regional SCIA's that promote the adoption of NM BMPs to the non-regulated (Nutrient Management Act) farm population.

Up to \$4,000 per project is available on a first-come, first-served basis to support these activities.

All regional SCIA's are encouraged to take advantage of this opportunity.

Complete details are included in the 2009 Grant Guidelines booklet, and are also available, along with application forms, on the OSCIA website www.ontariosoilcrop.org.

Get your members involved! ♦

Promoting Your Association's Events

OMAFRA Factsheets provide a wealth of information for non-profit organizations. One of those publications is "Promoting Your Organization's Activities".

When your local SCIA is planning an event, the first thing to do is select a group of members to be the Organizing Committee. Part of their role will be to promote the event.

According to OMAFRA's Factsheet on this aspect of the activity, promotion has two segments - communication and... communication. Prepare a checklist with activity, date to be completed, and assign a person to be responsible for that item.

A promotion plan considers the audience you wish to reach, and the information centres and media outlets in your area. Identify the local newspapers and radio or TV stations in your area, and find out who the contact persons are. Many of these will publicize your event at no charge. Also consider advertising via local businesses and store-fronts.

The promotion committee should ensure that everyone is well versed in all the activities in order to be an effective promoter. The full document "Promoting Your Organization's Activities" can be found on the OMAFRA website. ♦

Farm Safety - Personal Protective Equipment

"PPE (Personal Protective Equipment) only works if you use it!" is the theme of this year's Canadian Agricultural Safety campaign with a focus on the use, fit and access of PPE in agriculture. The year-long campaign will be launched with Canadian Agricultural Safety Week

(CASW), from March 11 to 17, 2009. The Canadian Federation of Agriculture (CFA) and Canadian Agricultural Safety Association (CASA) deliver CASW in partnership with Farm Credit Canada (FCC) and Agriculture and Agri-Food Canada (AAFC).

PPE is equipment, such as respirators, gloves, aprons, and fall protection worn by a worker to minimize exposure to specific occupational hazards. Using PPE is only one element in a complete safety program that would use a variety of strategies to maintain a safe and healthy occupational environment.

The information printed above is taken from the Canadian Agriculture Safety Association website. For more information on how to work safely on your farm, go to their site at www.casa-acsa.ca. ♦

Greenhouse Gas Emissions

The Soil Conservation Council of Canada (SCCC), the face and voice of soil conservation in Canada, will be evaluating a new computer-based tool designed to help agricultural producers identify opportunities to calculate and reduce greenhouse gas (GHG) emissions on their operations.

Holos, a greenhouse gas calculator designed by Agriculture and Agri-Food Canada (AAFC), analyzes a range of on-farm conservation management scenarios and determines potential reductions in GHG emissions. It is being evaluated by SCCC's Taking Charge Teams across Canada, who will test the program by plugging in real data provided by farmers. They will then report their findings to AAFC, who will modify the program into a final version for field use.

Holos covers various conservation practices such as reduced or zero tillage, rotations with perennial forages, tree planting, riparian buffers and nitrogen management, says SCCC executive director Glen Shaw. "At a time when the agricultural industry is under pressure to reduce its carbon-based emissions, this tool offers producers the opportunity to identify and set specific reduction goals," he says.

In Ontario, the Taking Charge Team led by OSCIA Director Alan Kruszel, has been doing some extension activities to raise awareness of the Holos Project. In partnership with other team members from Innovative Farmers Association of Ontario and OMAFRA, they will be setting up a series of Holos testing workshops throughout the month of March to give producers a chance to try out the software, and try a few mitigation practices to see what impact those practices may have on their operation's emissions.

If you are interested in participating in this free workshop, please contact Graham Gambles at 705-672-3105. The event will be held at the NEOSCIA Convention and Trade Show in Earlton on Saturday, April 4, between 4 and 6 pm. A free supper will follow for participants.

Renewable Energy Workshop

by Sharon Lane, Regional Correspondent to "Breaking Ground"

The Community Renewable Energy Workshop & Trade Show was held at the Echo Bay Community Hall on Thursday, November 20 with near full capacity. The workshop was sponsored by Upper Lakes Environmental Research Network (ULERN), Ontario Sustainable Energy Association (OSEA), Sault Ste. Marie Innovation Centre, Innovation Initiatives Ontario North (IION), Tulloch Consulting Group, Great Lakes Power Limited, and the Township of MacDonald, Meredith and Aberdeen Additional.

The objectives of the workshop, according to David DeYoe of ULERN, were to explore options, inform and enable people to make informed decisions.

The challenges are that the options include all energy: renewable, finite and recyclable. The shift to renewable energy is being driven by global sustainability. The population increase has put a strain on the planet because there is more demand for energy and at the same time water has been depleted and pollution has increased. The overuse of the natural resources of the planet has caused a change in climate. Climate change is one global threat. The last 20,000 years saw a temperature change of 5 to 6 degrees; the last 150 years with the first Industrial Revolution in Europe and North America and the second one in China and Japan has increased the carbon dioxide and this has increased the globe's temperature. This warmer climate in Ontario will cause a different forest in our area. Plants and animals cannot adapt in the 35-55 years that the change has come, so they are stressed. This problem can be seen in Northern British Columbia where the Mountain Pine beetle has invaded the lodge pole pine. A drought stressed these trees and now they are now under attack by the beetle. An area twice the size of New Brunswick has been destroyed. The Mountain Pine Beetle is moving eastward and will attack the Jack pine in the Boreal forest. Population of the globe has increased due to advancements in technology. Both China and India are industrializing and putting demands on energy.

Mr. DeYoe suggested that these global threats could also be opportunities.

Mr. DeYoe stated that Canada is the third

highest consumer of energy in the world. Canadians have to change their energy consumption by becoming more efficient, greener or more compact, that is by moving into cities.

Peter Gagnon from ULERN spoke on "Energy Conservation First". He said that sustainable energy means conserving energy, improving efficiency and using renewable sources of energy. He gave statistics to show that Ontarians are the "energy hogs of the world". Ontario households use 10 000 kw hours per year while households in the Netherlands use 3000 kw hours per year. The Government of Ontario will pay 50 % or up to \$150,000 for a Home Energy Audit to show where energy is lost and what can be done to conserve it.

In speaking on "Renewable Energy Options – Biomass", David DeYoe mentioned that there is biomass from the forest, farm and city. Forest biomass could include slash, sawdust, and any non-merchantable wood. Farm biomass could include switchgrass, willow, grain, straw or hay. There is about 1.2 million acres of unused land in Ontario to grow crops for biomass. Animals can also produce alternative energy. Manure can produce gas that in turn can be used to produce heat. Cities have garbage that can be used to generate energy.

Roberto Garcia from Ontario Sustainable Energy Association (OSEA) spoke on geothermal, solar, wind, and small hydro energy sources. Geothermal includes steam or hot water in earthquake areas and earth energy using water or heat from the ground. He stated that solar energy could replace coal generation for peak energy consumption periods. He mentioned that there are more jobs created with developing wind energy than any other forms of energy.

To conclude the workshop, Mr. DeYoe restated that threats can be opportunities and the first step in conserving energy should be at home and in our businesses.

GHG Calculator Project

The Soil Conservation Council of Canada (SCCC), the face and voice of soil conservation in Canada, will be evaluating a new computer-based tool designed to help agricultural producers identify opportunities to calculate and reduce greenhouse gas (GHG) emissions on their operations.

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Attend the
**EARLTON
FARM SHOW
APRIL 3 & 4**

RESOURCES • E-Bulletin

continued from page 3

Program Updates:

1. Cattle and Pork Producers Given More Time to Repay Cash Advances

Cattle and hog producers facing hard financial times have until September 30, 2010 to repay cash advances under the Advance Payment Program (APP). The extension of the deadline for livestock advances was announced by Agriculture Minister Gerry Ritz. In addition, the first \$100,000 of each producer's advance will continue to be interest free.

The extension of the repayment deadline applies to regular and emergency loans taken by cattle and hog producers during the 2008 – 2009 production period. The Stay of Default covers more than \$450 million in advances to the livestock sector.

Producers can apply for APP emergency advances until March 31, 2009. Regular APP advances will continue to be available. Beginning in April, producers who meet eligibility criteria will be able to apply for 2009 – 2010 regular advances.

For more information, contact Agriculture and Agri-Food Canada at 1-866-345-7972.

2. Ontario Market Investment Fund

The Ontario Market Investment Fund (OMIF) supports innovative market research, communication and/or marketing projects that encourage Ontarians to buy locally produced foods.

Projects are cost shared, with the provincial government investing up to 50 percent of the eligible costs to a maximum of \$100,000 per approved project.

Eligible applicants include but are not limited to:

- Strategic alliances between individuals, businesses, producers, processors, community organizations including not-for-profits and / or municipalities.
- Agriculture and food industry associations in Ontario including food retail and the food service industry.
- Groups comprised of two or more partner organizations or businesses including at least one food producer or processor.

Individuals or individual businesses are not eligible to apply as sole applicants.

A copy of the program guidelines and the application can be accessed at: <http://www.omifra.gov.on.ca/english/food/domestic/omif/omif.html> or by calling the NORO (1-800-461-6132).

3. Northern Ontario Growth Plan

The Ministries of Northern Development and Mines, and Energy and Infrastructure are leading the process to develop a Growth Plan for Northern Ontario. The plan will provide a long-term economic blueprint to revitalize the North's economy. Thirteen technical forums, including one for agriculture, and a Think North Summit were held between October

2008 and February 2009. Copies of the discussion paper, presentations and online surveys can be accessed at www.placestogrow.ca. Take the time to review the materials and provide your ideas and input on the development of the growth plan. A draft plan is expected to be released later this spring.

Resources

New and revised OMAFRA publications and factsheets are available through the Northern Ontario Regional Office at 1-800-461-6132

Publications:

2009 Supplement – Fruit Production Recommendations – This free supplement contains new product registration and changes from January 2008 to January 2009. It will accompany new book orders for Publication 360 and can also be ordered separately

Factsheets:

08-051 Preparing Business Plans – replaces 99-011
08-065 Out-of-Season Breeding Alternatives for Sheep – replaces 02-063

E-Resources and newsletters:

OMAFRA Podcasts – Podcasting is a method of accessing audio files, usually in a MP3 format, without requiring you to re-visit a site to see if something new is available. By subscribing to an OMAFRA podcast, new audio episodes that are added to our site will be automatically sent to you as soon as they become available. You can listen to them whenever you want from your computer or portable MP3 player. For further details or to subscribe to an OMAFRA podcast, visit <http://www.omafra.gov.on.ca/english/subscribe/podcast.htm>

Ontario Virtual Beef is an electronic newsletter produced quarterly by OMAFRA's Beef Team. It provides the latest in research findings and results, recommended production practices and solutions to industry issues. To read a copy or subscribe, go to www.ontario.ca/livestock and click on OMAFRA Virtual Beef

OMAFRA Environmental Management Newsletter, <http://www.omafra.gov.on.ca/english/nm/newsletter/emn.htm>

OMAFRA Agricultural Business Update: <http://www.omafra.gov.on.ca/english/busdev/news/index.html#agbus>

OMAFRA on Organic newsletter: <http://www.omafra.gov.on.ca/english/crops/organic/news/news-organic.html>

OMAFRA Horse News and Views www.omafra.gov.on.ca/english/livestock/horses/news.html

OMAFRA Website: <http://www.omafra.gov.on.ca/>

Ontario Hay listings: <http://ontariohaylistings.ca/>

Agricorp: http://www.agricorp.com/en-ca/news/dates.asp#dateID_445

Canadian Organic Growers

by Laura Telford, executive director

On June 30, new rules will be unveiled that will provide consumers with the assurance they need that foods carrying the word "organic" are produced and processed according to strict organic standards. Currently, Canada's organic farmers and processors follow voluntary standards and there is no government oversight to penalize companies making fraudulent organic claims.

In the lead up to June 30, the organic sector has been upgrading the organic standards which are referenced within the new Organic Products Regulations. Changes were required by the Canadian Food Inspection Agency and the Standards Council of Canada. A number of other changes were also made to harmonize Canadian standards with those of our major trading partners.

Under the current voluntary system, many Certification Bodies and provinces have maintained their own organic standards. After June 30, all players be on the same page as they adopt the national organic standards.

Because of the large number of recent changes to the organic regime and to the standards, Canadian Organic Growers (COG) has developed a new training program, in association with its industry partners - the Organic Trade Association and the International Organic Inspectors' Association, to get Certification Bodies operating under the new regime, organic inspectors, processors and farmers up to speed on the new system and rules.

As a result of the new organic rules and a more recognizable logo on organic foods nationwide, we expect increased demand for organic food and an increase in the number of conventional farmers considering organic production as an option. For this reason, COG and its Ontario partner, the Ecological Farmers Association of Ontario have also developed new training materials for farmers considering or in transition to organic farming.

Visit www.cog.ca/shop to register.

<http://canadagazette.gc.ca/par-tl/2008/20090214/html/regle1-e.html>



CROP TALK

OMAFRA Field Crop Specialists – Your Crop Info Source

Ontario Ministry of Agriculture, Food & Rural Affairs, Crop Technology Branch

Agricultural Information Contact Centre: 1-877-424-1300
Publication Order Centre: 1-888-466-2372

Northern Ontario Regional Office: 1-800-461-6132
OMAFRA Web Site: www.omafra.gov.on.ca

*Additional Information
from OMAFRA*



En français!

*L'information du Ministère de l'agriculture
et de l'alimentation de l'Ontario est dis-
ponible sur le site web du MAAARO en
français au www.omafra.gov.on.ca*

OSG Yield Contest

2009 marks the second year for the Soybean Yield Challenge, sponsored by the Ontario Soybean Growers (OSG).

To compete in the challenge, the soybean field size must be a minimum of 10 acres and the harvested plot must be a minimum of 1.5 acres of that same field. All soybean production practices are permitted. Conventional or genetically modified soybean seed is eligible, but all seed must be certified. Growers will be required to fill out a survey form stating production practices of the competition field, location of field and general weather data. Competition areas will be divided into three provincial zones based on maturity groups - Zone 1 – 2,700 HU and under; Zone 2 – 2,725 to 3,000 HU; and Zone 3 – 3,025 HU and above. Why not enter the contest to see what your yield potential is in 2009?

Corn Nitrogen Application: Assessing Potential Loss

by Greg Stewart, Corn Specialist, OMAFRA

Questions have surfaced more frequently than usual this winter about the potential loss of nitrogen from various N sources and application techniques. Let's dig for answers!

Question # 1

Weed 'n Feed: Spraying UAN and pre-emerge herbicides in the same tank.

The most obvious advantage is that N application costs are zero if you plan on spraying the pre-emerge product anyway. This system can eliminate a pre-planting operation that might delay planting and moves it into a slightly more flexible post-planting window. If the UAN is sprayed on bare soil, the N losses (ammonia volatilization) will be dependent on temperature and rainfall after application. These N losses could be quite low (0-5%) if temperatures are cool (less than 20°C) or if rainfall occurs within 48 hours. In reduced tillage situations where more of the UAN is applied to crop residue, or if temperatures are warmer and rainfall absent, the N losses may be significantly higher (15%), so the technique should be avoided. A reasonable approach on tilled ground, would be to take the recommended rate and apply 8-10% more N for surface-applied UAN applications. If the N Calculator (refer to www.gocorn.net) recommended 120 lbs N/ acre, then moving to 130 lbs per acre buffers you against N volatilization losses. This could cost \$8 per acre, which offsets some of the advantages of this approach.

Some producers have kept application accuracy high and application costs low by towing a cart and injecting UAN down coulters on the planter (refer to Figure 1). Some data suggests that banding UAN will result in higher yields than broad-

cast UAN. In a two year study at two Ohio locations, corn following corn yielded 9 bushels per acre better with banded UAN than with broadcast UAN.



Figure 1. Dunlogon Farms of Stayner Ontario can bring 1,600 gallons of UAN (32%) in a tow-behind cart in their attempts to keep application costs low and N losses minimized. N is banded 6 inches off the row on the corn planter.

Banded UAN produced 5 to 6 bushels per acre more corn than broadcast UAN in studies in Illinois as well.

Question # 2

Side Dress with the sprayer: Can I apply UAN with my sprayer and 90 foot boom in early June to save time and cost? Will streamer nozzles eliminate volatilization losses? Do I use the same recommended rate as if I were sidedressing?

The most applicable research in this area has been done comparing planting time sprayed UAN versus dribbled-on UAN. Ammonia volatilization losses are lower for dribbling techniques (which should approximate streamer nozzles) compared to broadcast spraying UAN. The possibility of experiencing higher temperatures during early June increases significantly compared to early May. Therefore the risk of ammonia loss increases as well. The streamer nozzles will help but not eliminate

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Corn Nitrogen Application: *Assessing Potential Loss*

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the risk of N loss.

The best approach is to apply in late May-early June in an effort to avoid hot days (volatilization) and before the corn is beyond the 6-leaf stage (leaf burn). Since this is earlier than typical sidedress timing, and since there is potential for some N loss due to the surface application, go with the N Calculator recommended rate for planting time applications, not the sidedress recommended rate. On fine-textured soils, this will cost you more for N (\$15/ acre) compared to true sidedressing and offsets the benefit of the faster application.

Question # 3

Sidedress urea: I can't source anhydrous ammonia in my area and urea would be the next cheapest source. Can I broadcast the urea in June into standing corn?

The ammonia volatilization risk is higher with urea than with UAN (UAN is only one-half urea). The potential loss from broadcast urea in June depends on a number of factors. The following conditions would all contribute to greater N losses from ammonia volatilization:

- high soil temperatures
- high soil pH (>pH 7.5)
- coarse soil texture
- low organic matter content
- high amounts of surface residue
- lack of rain for 10-14 days following application.

The research is quite variable in measuring losses from surface applied urea. It is

substantially higher than surface applications of UAN and can reach 40% N loss. This means significant additional costs and the practice has few upsides. A more appropriate system would be to capture the efficiency advantages of sidedressing and the potential lower costs of urea by investing in a system to sidedress the granular product (refer to Figure 2).



Figure 2. Claussen Farms of Brucefield Ontario sidedress urea with an air cart in their efforts to capitalize on sidedress efficiencies and the cost advantages of urea over UAN. Note the applicator bar using coulters to incorporate urea in a skip row configuration

Other Options

Other N sources that are specifically designed to reduce N losses are available that have not been discussed in this article. Relatively new products like poly coated urea (ESN) appear to be less susceptible to ammonia volatilization losses due to slower accumulation on the soil surface and less pH change around the particle. As more experience is gained with these products, they may become additional tools in maximizing N use efficiency.

Carbon Credit (Offset) Trading – *What's Going On?*

*by Adam Hayes, Soil Management Specialist
–Field Crops, OMAFRA*

There was a lot of talk early in the decade about farmers getting paid for storing carbon in the soil and for implementing other “climate change initiatives” on the farm. Then there was a period where not much was heard. In the past year, there has been a lot in the news again about “carbon trading”.

First, lets look at what is happening in the big picture.

Many countries, including Canada, signed on to the Kyoto Accord and are working towards achieving their targets. There are carbon exchanges where carbon credits are being traded in Europe, Chicago and in Montreal. There is a global movement pushing for harmonization of the carbon markets.

The North American Perspective In North America there are three climate groups of states and provinces that have come together to coordinate efforts in the reduction of greenhouse gas (GHG) emissions. It is quite possible that the three groups will merge into one. Although the United States did not sign on to Kyoto, there are many states that have been addressing climate change. The Canadian government will regulate carbon dioxide through the Environmental Protection Act beginning in January 2010.

An offset trading system will be set up, as well as a technology fund that can be utilized by emitters who are above regulated levels.

Climate Change Initiatives in Canada

Many provinces have been active in Canada. British Columbia announced a carbon tax in 2008. This adds a direct cost to those who are emitting greenhouse gases. Alberta established a Carbon Offset Trading Market in 2007. Trading is limited to Alberta. Current protocols relate to beef feeding, pork, composting, biogas, tillage, heat recovery, green energy generation and others. British Columbia, Alberta, Ontario and Quebec are part of one of the four climate groups and Saskatchewan is an observer.

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Wheat – *Pay Attention to Detail!*

by Peter Johnson, Cereals Specialist, OMAFRA

WHAM! After one year on top of the cash crop heap, wheat is falling right back down to the bottom rung of the “favourite crop” ladder. Don't fall into the rut of treating wheat as a rotation crop with “no money, no management”. Paying a little attention to detail can tell you mountains about your management skills, and whether there are more potential bushels and profit out in that field than what you are going to harvest.

Plant Count Guidelines

Ask yourself “how many times have I measured off 17 feet, 5 inches of corn row and counted plants to know the population?” The answer is likely “lots”!! Have you EVER done that in your wheat crop? My bet is “no”. Why? Well, perhaps partly because you didn't know what to look for. So let's fix that!

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Checklist For High Yielding Soybeans

by Horst Bobner, Soybean Specialist, OMAFRA

The Ontario Soybean Growers began a soybean yield competition in 2008. The results were impressive! The winner yielded 72.1 bu/ac near Seaforth. These yields are good examples that with the right weather, soil type, and management, large yields are possible

in Ontario. With the big yields and excellent prices in 2008, some producers grossed over \$1,000 per acre in their best fields. Maximum yields are crucial for high profits.

Consider the following checklist (Table 1) when growing soybeans for maximum

yield potential. Some of these management practices are free, while others are quite costly. Each field must be assessed individually to make the most out of each input dollar. Try to address the number one yield limiting factor for each field.

Table 1 - Checklist For High Yielding Soybeans

		Avg Yield Gain (bu/ac)*
1	Good Rotation For a 100% yield potential, soybeans should only be grown 1 out of 4 years. A corn/ soy/wheat rotation is also excellent and provides a 98% potential.	4.2
2	High Yielding Full Season Varieties Check the soybean variety trial brochure (www.gosoy.ca) before picking a variety. For example, OAC Wallace yields 8 bu/ac more than OAC Bayfield.	1-8**
3	Early Planting An early-May planting date compared to late-May will provide extra yield.	3.8
4	Narrow Rows at the Right Seeding Rate 194,000 seeds/acre in 7.5" rows 177,000 sees/acre in 15" rows	3.5
5	Seed Treatments Seed treatments are more likely to give a positive result if planting is followed by cool wet weather or if disease and insects are present. This is more often the case with early planting.	1.9
6	Inoculants Response is likely to be higher if soils are sandy, pH is low, or the field has not been in soybeans for at least 5 years.	1.0
7	Timely Weed Control Always use a burn-down in no-till. If timely weed control is an issue, consider using an inexpensive residual partner, even with RR soybeans.	1-2***
8	Foliar Insect and Disease Control Controlling pests when they reach threshold numbers is key to high yielding soybeans. Scout fields regularly.	1-5***
9	Fertilizer and Manure P and K should be applied according to a soil test. However, manure can provide yield gains even if soil test levels are adequate.	1-6***
10	Appropriate Tillage When compaction is a problem, tillage is necessary for good yields. If the soil is in good shape, tillage will provide little yield response. On average, spring one-pass (pre-tillage) will provide a slight yield gain over no-till.	1.8

Yield gains are based on Ontario research.

** Yield gains will vary depending on the varieties being compared

*** Yield gains from these factors are highly variable depending on soil test and pest pressure levels.

Farming Organically

by Hugh Martin, Organic Crop Production Program Lead, OMAFRA

Recent statistics are showing continued growth in the number of organic farmers in Ontario. In 2007, there were 569 certified organic farms in Ontario with approximately 100,000 acres of crops and pasture. This land was 48% in grain and oilseed crops, 40% in hay and pasture, and about 5% in fruit, vegetables and herb crops. The balance includes maple, nut trees, etc. Organic farming represents about 1% of the farmland and 1% of the farms in Ontario.


Economics

Organic corn, soybeans and wheat are priced similar to last year and slightly more than double the 2009 prices of their conventional counterparts. Organic crops yield about 75% of the conventional crops, depending on crop, management skills, weather, etc. Organic crops often have net returns per acre of at least double their

continued on page 20

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Valtera - A New Herbicide For Identity Preserved (IP) Soybeans

by Mike Cowbrough, Weeds Specialist, OMAFRA and Dr. François Tardif and Dr. Peter Sikkema, University of Guelph

With IP soybean premiums ranging from \$2 to \$3/bu, the control of "IP premium killing" weed species is important!

Valtera, a newly registered pre-emergent soybean herbicide manufactured by Valent provides control of:

- Eastern black nightshade, whose poisonous berries stain IP soybean seed, making the crop unmarketable;
- Lambsquarters and pigweed, two abundant weed species that have reduced soybean yields by as much as 40% when herbicide programs have failed;
- Herbicide resistant populations of:
 - Eastern black nightshade (resistant to Pursuit),
 - Lambsquarters (resistant to Pursuit, Pinnacle and Sencor),
 - Pigweed (resistant to Pursuit, Pinnacle, Classic, First Rate and Sencor).

Currently Valtera is only registered for use on its own, or as a pre-plant tank-mix with glyphosate. Research conducted by the University of Guelph has shown that for a complete weed management program in IP soybeans, Valtera must be tank-mixed with either Pursuit or Conquest to control both annual grass and broadleaf weeds.

Valtera Strengths

- Eastern black nightshade, lambsquarters, pigweed species

Control of Other Weeds (according to U.S. label)

- Common and Mouse-eared chickweed, Canada fleabane

Valtera Weaknesses

- Annual Grasses (suppression only) and perennial weeds
- Cannot be applied in conventional-till soybean systems.

Mode of Action

Valtera is a group 14 herbicide (same mode of action as Reflex and Blazer).

Application Timing

Valtera must be applied before soybean emergence, either as a pre-plant or pre-emergence herbicide, from 30 days prior to planting up to three days after planting.

Use Rates and Precautions

Valtera (56 g/ac) Valtera (56 g/ac) + glyphosate (0.67 L/ac or equivalent depending on formulation)

Crop Safety

Soybean tolerance to Valtera is maximized when the herbicide is:

- applied prior to soybean planting,
- applied to medium or heavy textured soils,
- applied to minimum tillage cropping systems.

In 2008 research trials, there was significantly more crop injury when Valtera was applied to conventionally tilled soybeans compared to no-till soybeans (Table 1). Soybean yields were not affected by the increase in observed crop injury.

Table 1.

Soybean visual injury 3 weeks after the applications of Pursuit + Valtera* and Cleansweep

Treatment	% Visual Injury (3 weeks after application)	
	No-Till	Conventional Till
Pursuit + Valtera*	8	20
Cleansweep	12	3

Guelph and Woodstock, ON, 2008 (Dr. François Tardif, U of G)

* Valtera was applied the day of planting at the no-till site and 4 days after planting at the conventional till site.

Experimental treatment – currently not registered.

Where Does Valtera Have the Greatest Fit?

2008 University of Guelph research trials showed that Valtera improved weed control and soybean yields (Table 2) compared to other standard herbicide programs when the weed populations consisted of herbicide resistant weeds such as:

- Lambsquarters (LQ), Sencor resistant
- Redroot pigweed (RRPW) - Pursuit, Pinnacle, Classic and FirstRate resistant

Experimental tank-mix used and rates included:

- Pursuit (168 ml/ac) + Valtera (56 g/ac)
- Conquest A (230 g/ac) + Conquest B (43 g/ac) + Valtera (56 g/ac)

Table 2.

Soybean yield and control of annual grass and herbicide resistant annual broadleaf weeds with Valtera tank-mixes compared to other standard herbicide programs

Treatment	% Visual Control				Yield (bu/ac)
	LQ	RRPW	GFT	HCG	
Dual + Sencor (Figure 1)	49	100	100	100	41
Cleansweep (Figure 2)	87	79	85	93	47
Pursuit + Valtera* (Figure 3)	100	98	100	100	51
Conquest + Valtera*	100	100	98	100	53

Woodstock, ON, 2008 (Dr. François Tardif, U of G) GFT = Green foxtail, HCG = Hairy crab grass

* Experimental treatments – not currently registered



Figure 1 Dual + Sencor (Woodstock, ON, 2008)



Figure 2 Cleansweep (Woodstock, ON, 2008)



Figure 3 Pursuit + Valtera* (Woodstock, ON, 2008)

* Experimental treatments – not currently registered

For more information:

www.valent.com/c/canada

The Art of Interpreting Field Trials... or, Can Good Data Lead to Bad Results?

by Keith Reid, Soil Fertility Specialist, OMAFRA, Stratford

There are a number of reasons why a field crop trial fails to show a statistically significant response. The most obvious is that the treatment really doesn't have any effect! The trial results reflect what would normally be expected in the field.

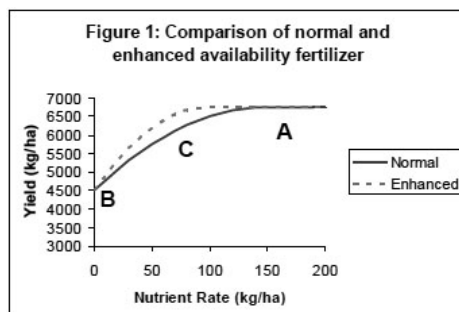
However, there are other situations where the treatment is actually having an effect that the trial is not been able to detect. These situations include:

- Large underlying field variability, so the treatment effect cannot be observed through the random variation
- Insufficient replication
- External effects increasing the random variability in the trial (e.g. wildlife damage)
- Conditions aren't right for the effect to be expressed (e.g. disease isn't present so there is no response to a fungicide treatment)
- Plot design did not allow the difference to be observed.

It is this final situation that I will be focusing on, as it is most relevant to many questions of nutrient use efficiency.

Consider the situation presented in Figure 1, where the response to a normal fertilizer is compared to the response to an imaginary 'enhanced' fertilizer. The maximum yield for both is the same, but the enhanced fertilizer reaches the maximum yield at 100 kg of the nutrient rather than 150 kg. This would obviously mean a significant savings for a farmer who could

achieve the same yield with two-thirds of the fertilizer rate.



Point A - On The Plateau

Comparisons of two products are set up using the least possible number of treatments, but remember that we don't know ahead of time what type of response to expect. This can lead to misleading trial results. One common trial design is to compare the usual rate of the normal fertilizer to the same rate of the enhanced fertilizer, as shown at point "A" on the figure. This trial would not show any difference between the products.

Point B - Zero Rate

In this particular example, adding a zero treatment ("B") would not make the difference any clearer, although it is certainly helpful where there is a difference in the maximum yield from each treatment. A common marketing ploy is to include the Normal fertilizer at the usual rate ("A"), with the Enhanced product at a

reduced rate ("B"), and conclude that the Enhanced material is more efficient because it gave similar yield for less input. While this is correct in this example, this conclusion is accidental rather than firm proof because the same results would be seen if the rates for both products were on the yield plateau.

Point C - Expected Response Difference

The valid comparison that would show the difference between the two products would include both products at a rate where there is a difference in response, as at point "C". Since we don't know prior to the trial exactly where this point will be, the most reliable design includes multiple rates of both products so that a yield response curve can be drawn for each.

The take-home message from this is not that every trial needs multiple rates, but rather that the expected response from a given input needs to be considered in the design of the trial. The only design we can reject out-of-hand is the one where each product is used at single rates, but that are different between products, since it can never give unequivocal results. Trials where we expect an overall yield increase are valid with the zero plus high rate treatments. Where differences in nutrient efficiency are expected, however, it is important to include multiple rates of each treatment so that response curves can be drawn.

Valtera - A New Herbicide For Identity Preserved (IP) Soybeans

What About Ragweed?

Valtera alone will only suppress common ragweed and will not control giant ragweed. Valtera tank-mixed with either Pursuit or Conquest will increase the control of common ragweed compared to either one of those herbicides on their own. To put things into perspective, at Ridgetown in 2008, Broadstrike Dual Magnum controlled common ragweed the best (refer to Table 3).

Conquest + Valtera gave comparable con-

trol. If you have used Broadstrike Dual Magnum in the past and were happy with its control of common ragweed, Conquest + Valtera should offer similar control.

Table 3. Control of common ragweed (% visual control) and soybean yield (bu/ac) in 2008 with different soybean herbicide treatments

Treatment	Ragweed Control (%)	Yield (bu/ac)
Conquest	81	39

Valtera	76	39
Conquest + Valtera*	96	45
Broadstrike Dual Magnum	97	46

Location: Ridgetown, ON, 2008 (Dr. Peter Sikkema, U of G)

* Experimental treatment – not currently registered

For more information:
www.valent.com/Canada

Can We Manage Alfalfa Stem Fineness With Varieties and Seeding Rate?

by Joel Bagg, Forage Specialist, OMAFRA

Hay producers want alfalfa that is fine stemmed, rather than course stemmed. This is thought to improve palatability (less "sorting" by livestock), intake, forage quality (digestibility) and marketability. Stem fineness is more important when alfalfa is harvested as dry hay rather than haylage. Hay producers are more likely willing to sacrifice some yield potential for an improvement in stem fineness if necessary, whereas haylage producers are not. Anecdotal differences between varieties and seeding rates with regards to stem fineness are often talked about, but without good data to support it.

The East-Central Soil & Crop Improvement Association utilized an OSCIA Regional Grant to answer some of these questions.

Variety Differences

A side-by-side variety performance trial was set up at the farm of Eric Bowman, Enniskillen. This was a cooperative project shared with the University of Guelph and the Ontario Forage Crops Committee (OFCC). The trial included 49 commercially available alfalfa varieties side-by-side in 1 X 6 metre plots that were replicated 4 times. These plots were harvested and evaluated for yield, maturity and stem diameter in Years 1, 2, and 3 following the establishment year. Relative maturity of each variety was measured by sorting stems by stage and a "mean stage by weight" was calculated. Stem diameters of Stage 4 (late bud) were measured with electronic calipers to determine "stem fineness" when cutting at that stage. Maturity and stem diameter data was pooled with a similar trial at Elora. Varieties significantly different ($p=0.05$) for maturity and stem diameter are listed in Tables 1 and 2.

Table 1 – Alfalfa Varieties With Maturity Significantly Different Than The Trial Mean

Early (More Mature)	Late (Less Mature)
Enhancer	53V52
Stallion	Marquis
Starbuck	Amerigraze 401+Z
Satellite	Jolt
Forecast 1001	Dominion
	Approved
	Macon
	Guardsman II
	Reliance

Table 2 – Alfalfa Varieties With Late-Bud Stage Stem Diameter Significantly Less Than The Trial Mean

Fine Stemmed
Affinity+Z
54V54
2065MF
Reliance
Amerigraze 401+Z

Harvesting any alfalfa variety at an earlier stage of development will result in forage that has a greater proportion of finer stemmed, less mature material.

However, varieties also differ in their stem diameter as well as their maturity, so some varieties are finer stemmed at the same stage of maturity. Since there was not a high correlation with yield, this does not necessarily have to be sacrificed. Seeding early-maturing as well as late-maturing varieties can be an option to widen the first-cut harvest window.

Variety yield data was added to the composite index data published in the 2009

OFCC Forage Variety brochure (www.go-forages.ca).

Seeding Rate

A seeding rate trial, similar to the variety trial, was seeded in 2006 under good conditions, and harvested in 2007 and 2008 to determine if an increased seeding rate increases stem fineness. Five varieties were planted at seeding rates of 5.5, 11, 16.6 and 22 kg/ha.

Table 3 – Effect of Alfalfa Seeding Rate On Maturity, Stem Diameter and Yield

	Seeding Rate (kg/ha)			
	5.5	11	16.6	22
Stage of Maturity (MSW)	3.7	3.4	3.2	3.1
Stem Diameter (mm)	2.7	2.7	2.5	2.6
Yield (tonnes/ha)	9.7	9.8	9.6	9.5

The alfalfa plots seeded at higher rates were less mature than the lower seeding rates. However, there were no differences in stem diameter at the same stage of maturity (late-bud). In other words, high seeding rates delayed maturity, and therefore reduced stem diameter on a given date of harvest, but not at the same stage.

Full Report

A full project report will be posted when available on the East-Central SCIA website: www.regionalscia.org/.

Improving Yield of Second Year Soybeans Project Update

St Clair Region Soil and Crop Improvement Association Partner Grant Project

The purpose of this project is to determine the value of a rye or winter wheat cover crop in fields where soybeans follow soybeans. The first year of the project saw a significant yield increase to the cover crops on a sandy loam site and no response on a clay site. The sites in the second year of the project were all on clay or clay loams soils. The cover crops were planted in the first half of October and growth the following spring was good.

However the soybean yields did not show any difference between the cover crops and the check. The project is continuing for one more year.

Increasing Pasture Legume Content

by Jack Kyle, *Grazier Specialist, OMAFRA*

There are a number of advantages to including a significant level of legume content in pastures. Legumes provide nitrogen, improve yield and increase forage quality. The most common legumes used in Ontario pastures are alfalfa, white clover, trefoil and red clover.

Productive pastures require regular maintenance. Rotation is one very effective way to improve pasture productivity. Improving the species mix in the pasture is also important. There are many advantages to including legumes:

- Nitrogen provided to the soil by legumes encourages grass growth as well as supporting the legume growth.
- Legumes have more consistent production during the mid-summer period. Some of the legumes, particularly alfalfa and trefoil, are deep-rooted and have better tolerance for the warm, dry conditions generally experienced in July and August. Grasses grow well during May and June, but July and August production is typically reduced.
- Legumes hold their feed quality longer than grass species, so pasture quality is more consistent throughout the summer grazing season.

Alfalfa Establishment

Alfalfa is the most productive of the legume species, but also has several drawbacks. Establishment of alfalfa requires excellent seed-to-soil contact and very little competition during the seedling stage. Most pastures with a significant level of alfalfa are established through conventional seeding, either planted into a tilled seedbed or no-tilled into a killed sod.

Frost Seeding Clovers & Trefoil

Clovers and trefoil can be established in a manner similar to alfalfa, or they can be frost seeded or over seeded into the pasture. In an established pasture, this is the easiest and likely the best option to increase the legume content. Frost seeding is done by broadcasting seeds on frozen ground in late winter or early spring.

The best success has been reported with white clover, red clover and trefoil using this method. The generally accepted seeding rate is 1-3 lbs of seed per acre, although there are no hard and fast rules as to the amount. White clover is often frost seeded at 1 lb/ acre, trefoil at 2-3 lb/ acre and red clover at 3-5 lb/acre.

The seed should be broadcast when the ground is still frozen. The freeze-thaw action during the spring will help to establish seed-to-soil contact. This broadcasting can be done with a broadcast seeder on an ATV or snowmobile.

Results are not always evident in the first year, but by the second season you will generally see an increase in the legume content of your pasture. White clover and trefoil can also be mixed in the livestock mineral/salt during the grazing season. The livestock will then spread the seeds across the pasture with the manure.

This method may not be as effective but it is low cost and easy.

For further information refer to:

www.omafr.gov.on.ca/english/crops/field/news/croptalk/2007/ct-0307a8.htm

www.omafr.gov.on.ca/english/crops/facts/98-071.htm

Woody Crops for Biomass Production

By *Graham Gambles*

At the North Bay Wood Pellet Forum, Rachele Clinch of the Dept. of Environmental Biology at the University of Guelph, spoke on a project that is being carried out in partnership with the Canadian Forest Service. They are evaluating "Short Rotation" (20 year) woody crops for biomass production on quality #1 to #3 agricultural land. The species tested are Poplar/Aspen hybrids.

Two systems are being compared. The first involves planting stems at 3x3 meter spacing, growing them for 12 to 20 years before harvest. Development costs are projected at \$3500 to \$4000 per Ha. The second involves dense planting of cuttings at a spacing of .6x.6 meters, at a much higher projected cost. The advantage to this second option is the fact that the shoots can be harvested every 3 or 4 years for a period of 20 years.

Harvesting would be done with a specific style of forage harvester, or with a harvester/shredder/baler system. The equipment has been proven elsewhere. Parts of northern Ontario would be suitable to growing these hybrids. (A test is being undertaken at the New Liskeard Research Station.) Willow is also being tested for Biomass production.

Production tests on lower class lands (below #3) are not yet being done.


Carbon Credit (Offset) Trading – What's Going On?

continued from page 14


Ontario signed an agreement with Quebec in 2008 to develop a cap and trade system. Ontario is currently involved in a pilot project to test draft tillage and nitrogen protocols. The government has also pledged to close all coal fired plants by 2014 and is currently exploring fueling some of them with biomass.

Carbon prices last year traded at \$6/tonne of carbon dioxide equivalent in Chicago, \$11/tonne in Montreal and \$26/tonne in Europe. Canadian government studies predict the price could increase to \$60/tonne by 2018. As the price for a tonne of carbon increases and the rules for trading become clearer it looks like opportunities may open up for Ontario agriculture to be part of the solution and potentially generate some revenue at the same time.

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Wheat – Pay Attention to Detail!

continued from page 14

Some general guidelines for you to follow are below. It is assumed that everyone is in 7.5 inch rows, as virtually every no-till drill is set on this row spacing, and no-till cereals simply make sense.

- 20 plants/foot of row in wheat (17 plants/foot in barley, 14 plants/foot in oats)
- 50 stems/foot of row (main plus tiller stems at latetillering stage)
- 38 heads/foot of row
- 16 spikelets/head
- 3 kernels/spikelet

These counts are a minimum for high yield potential. As you move through

the growing season, these counts can be a good indicator if you should push that field for higher yield, or if you should limit inputs and cut your losses early.

Planting Depth

If you don't measure up, start looking for ways to improve your yields. Start with planting depth and emergence. Research in Manitoba by Gan, Stobbe and Moes showed that wheat plants emerging early (Day 1 to Day 3), yielded 1.4 times higher than plants emerging from Days 4 to 6, and 3.2 times higher than the yield of plants emerging late (Day 7 to 9). There is significant yield gain and variability in that data!

Starter Fertilizer

Next, check your fertilizer application. Seed-placed starter fertilizer will aid in plant uniformity. Phil Needham, a leading wheat consultant in the US, says his growers would stop planting rather than plant without seed-placed phosphorus. Big yields need that attention to detail.

There are lots of other causes for poor uniformity – including residue distribution, planting speed and moisture. Whatever the cause, you now have the tools to assess your performance. Get out there, walk those cereal fields, and see just how close your management comes to perfection!

Farming Organically

continued from page 15

conventional counterparts, and in some cases more than that.

Marketing of organic crops will take some research to seek out the dealers you want to work with. There are numerous buyers for organic grains. Organic prices are not tied to the Chicago Board of Trade, so there tends to be more stability in the market. Prices are affected by supply and demand of organic commodities, but for many years supply has not been able to meet demand.

Even in the current market, prices have been stable and market demand is still strong.

Certification

For field crops, certification is generally required by buyers. This is true of both processing buyers for food products, as well as feed buyers. Organic livestock must be fed certified feed if the livestock are certified organic. Certification costs range from \$500 to \$1,000 or more per year per farm, depending on the size and complexity of the farm. Good production records are required as part of the certification and annual inspection process. However, these records are very similar to what is required for other traceability programs. As of June 30, 2009, certification will be part of the new Canada Organic Regime that will be managed by the Canadian Food Inspection Agency.

Organic certification bodies will be accredited to manage the certification process.

Weed and Nitrogen Management

The biggest production issues for organic field crop farmers are weed management, and nitrogen management in corn and cereals. The key to successfully managing weeds is to have a good crop rotation. Secondly, be timely with mechanical weed control, starting right after planting before the crop emerges. For corn and soybeans, this requires weekly passes over the field with a rotary hoe, weeder harrow or inter-row cultivation. This will likely cost less in total than a typical herbicide program. The third step is to be able to walk the fields with a hoe as needed to eliminate weedy patches and outbreaks or troublesome weeds. The key is to keep on top of your weeds and to prevent weeds from going to seed as much as possible.

Nitrogen is largely managed with cover crops such as red clover. Red clover is fairly easy to establish on most organic farms. Farms with access to manure can also use it to supplement the nitrogen and maintain phosphorous and potassium if those nutrients are low. However, high rates of manure are discouraged in order to minimize weed pressure and environmental issues.

Have a good look at organic. The sector has grown 15–20% per year for over 20 years. It takes some effort but your successes can be very rewarding.



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Feed Notes

Filling the Need for Alternative Energy

by: *Graham Gambles, NEOSCIA Regional Communication Coordinator*

The capacity crowd at the North Bay "Wood Pellet Forum" heard from many speakers. Here are the views of many of them...

Dr. Warren Mabee of Queen's University noted that the modern wood pellet house stove is about 80 times more efficient than the open traditional fireplace. Similarly, modern industrial burners that combine flue gas recovery with heat and power production are about 80% efficient. Although Sweden derives about 35% of its heat from wood, Canada only gets 4% of its energy from wood. Most of this is recycled wood waste products, with only 20% of the wood burnt coming directly from the forest.

Currently, we have no idea how much "surplus" forest biomass is available for energy production. Same goes for agriculture. However, due to the 2008 economic collapse, we know that ethanol obtained from wood pulp is of significantly less value than traditional wood products made from pulp. It is also worth noting that ethanol made from straw usually produces about 10% less energy from an equivalent weight, but that the economic return will vary depending on the cost of processing.

Due to the fluctuating economic values of the raw material and the finished product, government should supply subsidies in the initial years of industry development. Similarly, rather than specifically using wood or agricultural biomass for energy production only, Canada needs to develop an overall "Bio-Refinery" system for the optimum use of these raw materials.

Jay Aspin of "Trade North Ontario" mentioned that a trade mission to Scandinavia in 2005 showed the huge opportunity that was available in producing energy from forest and agricultural sources. However, no one from Ontario was interested then. Today it is different. All of Canada wants to work with the Europeans on the coming opportunities. He also noted that Nipissing University will be the depository of all available and developed Biomass infor-

mation within the North-East region.

While Canada has ignored the potential of biomass due to our dependency on relatively cheap and plentiful fossil fuels, Europe has developed the technology necessary to make use of available biomass. On the positive side, the Europeans have worked the kinks out of the equipment and we can now invest in high quality industrial equipment that will make our switch to biomass energy very efficient.

Ontario does have people available to design or upgrade the equipment necessary to meet our local needs. Glen Ruby of Timbercreek Farms develops high tech equipment that will turn sawdust into a pellet. The firm has designed equipment designed to "change tooling" very quickly in order to allow raw products (with unique characteristics) from various sources to be run through a single pelletizing plant. His equipment could run sawdust one day and switchgrass the next. One pelletizer can produce 3 T of pellets /hour, so cost per tonne of production is low. He believes that due to the huge demand and short timeframe presented by the OPG changeover, there will be a huge investment in equipment over the next few years. Quality Hardwoods, a local company that produces Kiln dried hardwood, has already made the switch to pellets. Peter Van Amelsfoort said that the price for oil became so high in the past 2 years that it was essential to make the change in order to survive. He had considered developing a co-generation plant, but the cost and lengthy development time frame made it prohibitive. He installed 2 "Dekkar" pellet-boiler systems (with scrubbers) that each give 35,000,000 BTU per hour with a hot water target of 195 F. He does keep the old oil burners for a back-up system, but the wood pellet burners saves over 50% of his fuel cost when heating oil is priced at \$.80 per litre.

Claude Brisson of "Ecoflamme" spoke on the creation of "Renewable Energy Clusters". This is a concept that is widely used in Europe in order to keep the mon-

ey circulating as much as possible within a specific region. In northern Ontario, a project in any given District would have 5 basic components. These are :

1. develop biomass recovery techniques
2. develop biomass pellet factories
3. develop distribution lines
4. encourage installation of home and industrial pellet burners (or generators)
5. train and hire technical personnel to maintain equipment

The raw material could come from either the forest or farm, and recognizes that due to the high cost of transportation, projects should be developed that meet the needs of a specific local population.

Roland Kilpatrick of the National Research Council noted that out of necessity, Sweden became a leader in Biomass energy as they had no fossil fuel reserves. They now have "district" heating systems in every community with a population over 10,000. Their climate is similar to Canada, so their Biofuel heating system is probably replicable here.

We have an advantage. Canada is already the worlds largest exporter of wood pellets, although almost all of these come from B.C. The current world consumption is 10 million tonnes per year.

A wood fibre pellet has a high energy density of 40#/cu.ft. and burns at 8000 BTU per pound. Conifer trees have more energy than deciduous, and straw is in third place. However, canola straw producers 25% more energy than conifers! Industrial hemp is known to be very productive in terms of mass, but the energy output is not available.

Modern pellet stoves are up to 95% efficient and furnaces for the home have modern, low-labour fuel delivery systems. It is worth noting that Montreal is considering a ban on all wood burning stoves and fireplaces with the exception of the modern pellet burner.

A Perspective on the Canadian Fertilizer Industry

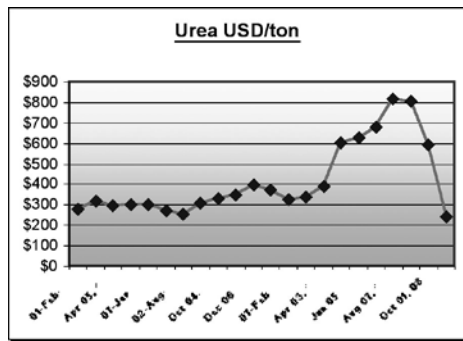
By Neil Tarlton, Ontario Federation of Agriculture

With the Canadian fertilizer corporation Agrium this week making a "hostile" bid for the US company, CFI holdings, urea prices reaching a high of over \$800.00 (US) per tonne last year and the Chinese government slapping a 110% export duty on all nitrogen fertilizers to protect its domestic market, it is really difficult for Canadian farmers to calculate their cropping strategy.

Not only are commodity prices, post harvest, highly unpredictable at the time of one's winter planning for spring seeding. The input costs, fertilizer being a major one, are also extremely volatile.

One is asked the question, "why the Canadian government cannot protect Canadian farmers from fertilizer price hikes by also putting a tariff on exports? The same as the Chinese government did.

Free trade is a major policy of the Canadian government. The Canadian fertilizer industry exports 12.4 M tonnes of fertilizer which is 95% of its potash and 50 % of its nitrogen production to more than 70 countries. We rank # 1 and # 2 in the World in the exports of those two commodities.



Above, Urea prices 2007 – 2008

Investors including Canadian pension funds appreciate the freedom for Canadian corporations to operate in a free market, both from the perspective of having markets for their products, unencumbered by tariffs and the share price of the company to be allowed trade openly. In spite of this the shares of the Potash Corporation

of Saskatchewan, Canada's major potash producer, fell 75% from 246/share in June 2008 to \$61.00/share in December.

The future.

Locking in some of one's harvest to a future price, that at least covers the cost of production, is a hedging technique commonly used to reduce some of the risk of profitable crop production. Early shopping around for competitive input costs, especially a major one like fertilizer is also a good practice.



Blended fertilizer. Potash is pink, nitrogen white and phosphate grey

Fertilizer companies are likely to become even larger and operate on a global basis. Takeover bids will sometimes be successful, resulting in larger companies taking over others, especially when their management perceives the economic climate as being "right" Fertilizer producers are making technical advances too. "Smart" fertilizers will have release mechanisms which will allow nutrients, especially nitrogen, to be available at the opportune time of plant growth. At present up to 70% of nitrogen is lost to runoff, volatilization or descending into the groundwater. Farmers need to continue lobbying to insure that some of the monetary benefits of the increased efficiency of farming stay as increased net income for the farm family.

(Credits:- after Dr. Carlos Monreal Agriculture Canada, Agrium Co, Yara Co., The Potash Corporation of Saskatchewan)

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Biomass Energy Essentials: Q & A

1. Why are biomass fuels such as wood pellets, wood shavings and agricultural residues considered to be :CO₂ neutral”?

The biomass residues from forestry operations are branches, needles and leaves, collectively known as “slash”. The residues from lumber mills are bark, sawdust, wood chis and shavings. Agricultural crop production residues are usually some form of straw. All of these residues decompose naturally over time. The products of this decomposition are fundamentally the same as the products of burning this biomass residue material: heat, grasses, and a relatively small quantity of solid material. The primary difference is that natural decomposition is a slow process, whereas combustion is relatively quick.

2. How much biomass is required to replace oil and natural gas, to produce heat?

It is important to note that the energy content of biomass is often measured on a “dry basis”. This is sometimes also called “oven dry” or “bone dry”. These terms mean that there is no water or humidity in the product. Measuring energy content in this way permits easy comparison of various potential biomass fuel sources.

In actual fact, different biomass fuels may contain from 5% to 60% moisture. It is very important to take the actual moisture content into consideration when designing a biomass heating system, and when purchasing biomass fuel.

Fuel	Quantity	Energy Content
Natural gas	1 cubic metre	36.6 MJ
Fuel oil	1 litre	36.2 MJ
Wood pellets (10% moisture content)	1 kg	16.56 MJ
Wood chips (20% moisture content)	1 kg	14 MJ
Seasoned wood (20% moisture content)	1 kg	14 MJ
“Green” wood (50% moisture content)	1 kg	8 MJ

Net energy content (dry basis) of different type of biomass

Fuel	MJ/Kg (d.b.)
Spruce	18.8
Pine	19.2
Beech	18.4
Oak	18.2
Poplar	18.5
Straw	17.1 – 17.5
Cereals	17.1 (wheat, rye) – 26.5 (Canola/rapeseed)

Net energy equivalents

1000 litres of fuel oil extra light approximately equals

- 5 – 6 stacked m³ hardwood (logs)
- 7 – 8 stacked m³ softwood (logs)
- 9 m³ (hardwood) – 15 m³ (softwood) wood chips
- 2000 kg or – 3 m³ wood pellets

Source for energy data Austrian Bioenergy Centre GmbH, “Energy and Biomass”, April 28, 2008

3. Aren’t biomass systems smelly and smoky?

Not when the biomass combustion system is properly designed and operated. Burners and boilers are available for the complete range of biomass fuels, and it is important to match the combustion system to the available fuel. For example, one should not put green wood into a system designed only for seasoned wood, that one would put diesel fuel into the fuel tank of a car designed to run on gasoline. Modern biomass combustion systems typically produce far less SO₂ and NO_x emissions than do fossil fuel combustion systems, and produce no visible emissions

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Biomass for Fuel: *Where are the Opportunities?*

by Graham Gambles, NEOSCIA Regional Communication Coordinator)

At the 2009 Annual General Meeting of the OSCIA in Niagara Falls, two speakers addressed the issues around the opportunities that have developed for a "Biomass" industry. They were Chris Young of "Ontario Power Generation" (OPG) and Dean Tiessen of "Pyramid Farms Ltd.", based in Leamington.

Young pointed out that OPG currently has 7 coal fired generators operating in the Province, including two in north-western Ontario. Due to a change in government policy, all seven must find alternative sources of fuel by 2014, if they are to continue operation. A test program run at the Atikokan plant proved that wood biomass was an excellent replacement for coal at that facility. It is very compatible with the furnaces that were designed to burn the low quality form of coal known as "Lignite". This generator is now scheduled to run completely on Biomass, starting in 2012.

There are 6 reasons why the Province should switch from coal to Biomass. This product is renewable and available on demand. There is no "net" greenhouse gas emissions and it therefore contributes to a lower carbon future for the Province. It has a synergy with both the Forestry and Agriculture industries. Most importantly, it will make use of the existing coal fired generators that would otherwise be closed by 2014.

OPG does have a few policies that will apply to this new operation. First, they will not burn food crops - grain corn, for example. Second, wood fuel and agricultural products must be obtained by a sustainable harvest method. The Biomass must be obtained with a minimum negative impact on consumers.

In 2008, OPG had offered an initial "Request For Expression of Interest" for the purchase of a small biomass supply. Many more offerings will come in the future. OPG is expected to require 20% of the "current" world supply of fuel Biomass by 2014. Therefore, the opportunities are great for both the Agriculture and Forestry industries. However, OPG does not want to deal directly with individual suppliers. They would prefer to work with an aggregation of smaller producers, generally known in the farm community as "Co-ops".

The basic requirement is that the fuel must be delivered to the OPG facilities as "Pellets" or "Pucks". It can be either wood or agricultural products. It can not be material that can be used in the food chain, and it can

not be officially designated as waste (such as manure or household garbage).

Time is of the essence. The supply contracts must be in place by 2011 to meet the OPG changeover timetable. Contracts will assure a reasonable return for all involved. The contract term could be 10 to 20 years. For more info, see the web at www.opg.com.

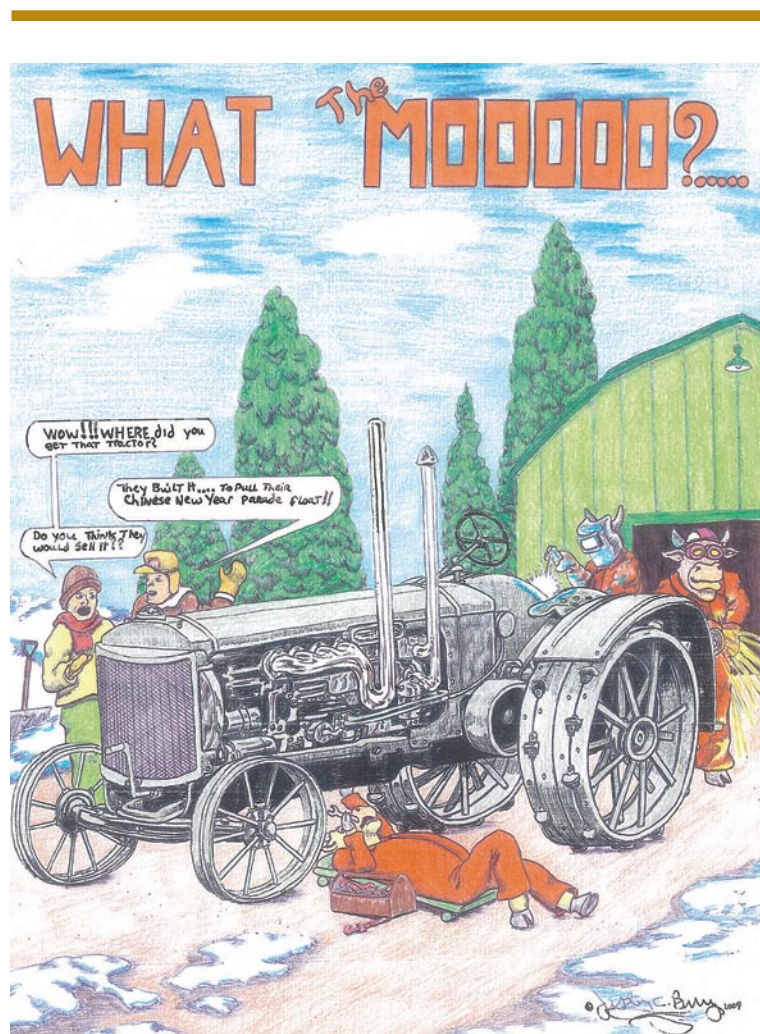
Dean Tiessen, a greenhouse tomato producer, has been using wood biomass to heat his facility since 2006. He has found that all biomass energy sources have both advantages and disadvantages. Most agricultural biomass species are "unimproved" and undergo basic harvesting at any moisture level. Perennial grasses are high yielders, even with low inputs. They can be harvested in the fall in a relatively dry state and easily held over the winter.

There is a great difference in yield between specific varieties of plants, ranging from 4 to 40 dry tonne per hectare. Remember that a high carbon content is essential for a high BTU value for any specie. Conversely, a high nutrient content (as in many agricultural products) is considered to be a negative as it leads to more ash and even corrosion of the burners.

There are a number of "improved" plant species that may be major players as a biomass fuel crop sometime in the future. One example is "Amouri", that is said to be highly productive. A species

called "Miscanthus", (currently being tested at Ridgeway) has the same energy content as wood, but grows faster under specific conditions. It must be planted by "plug" with specific equipment already developed in Europe. Note that Monsanto has bought all the seed rights to this species and is now upgrading the seed quality and fuel output of this plant.

As for any crop, economic production depends on climate, soils, and the species grown. The crops must be sustainable and have a positive energy balance. Can it be done? YES! The industry exists and the scalability has been proven in Europe over more than two decades. The Ontario hurdles include government policy, infrastructure development, marketing, and a guaranteed return on investment.



This month's artwork comes from Justin Burry of Thornloe. View more of his work at <http://justin-burry.tripod.com>